CHAPTER 6

RIGGING DUAL ROW AIRDROP SYSTEM (DRAS) M119 105-MILLIMETER HOWITZER AND ACCOMPANYING LOAD

DESCRIPTION OF LOAD

6-1. The M119, 105-millimeter howitzer (Figure 6-1) weighs 4,190 pounds. The length is 240 inches, reducible to 192 inches. It is 70 inches wide. Its height is 94 inches reducible to 54 inches.

The howitzer is rigged with 24 boxes of 105 mm ammunition and 6 boxes of fuses on a DRAS platform for DRAS airdrop. The maximum allowed accompanying load is 2,400 pounds. The load is rigged with three G-11D cargo parachutes.

PREPARING PLATFORM

6-2. Inspect, or assemble and inspect, a DRAS platform with outrigger assemblies and outrigger platform support weldments according to TM 10-1670-268-23&P and as shown in Figure 6-2.

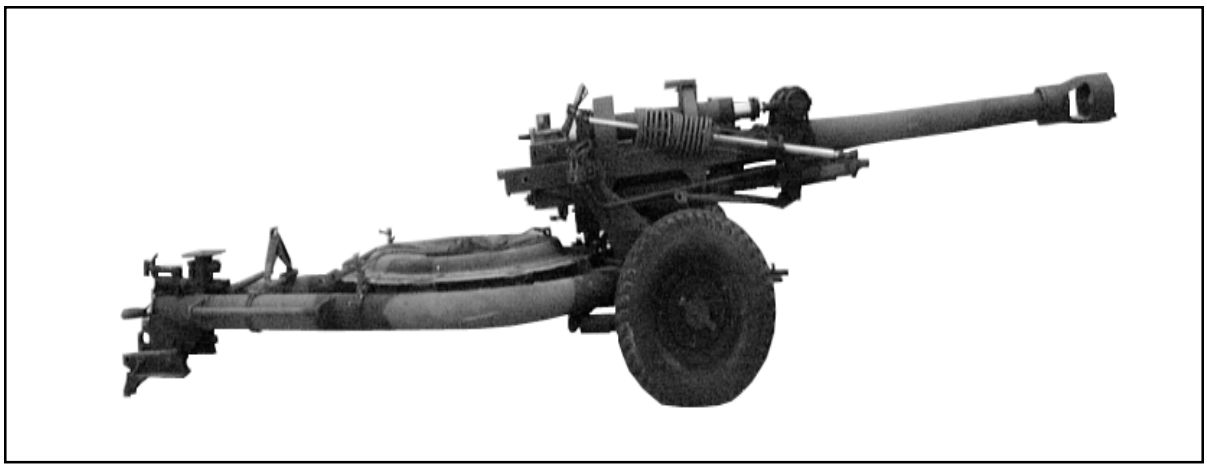
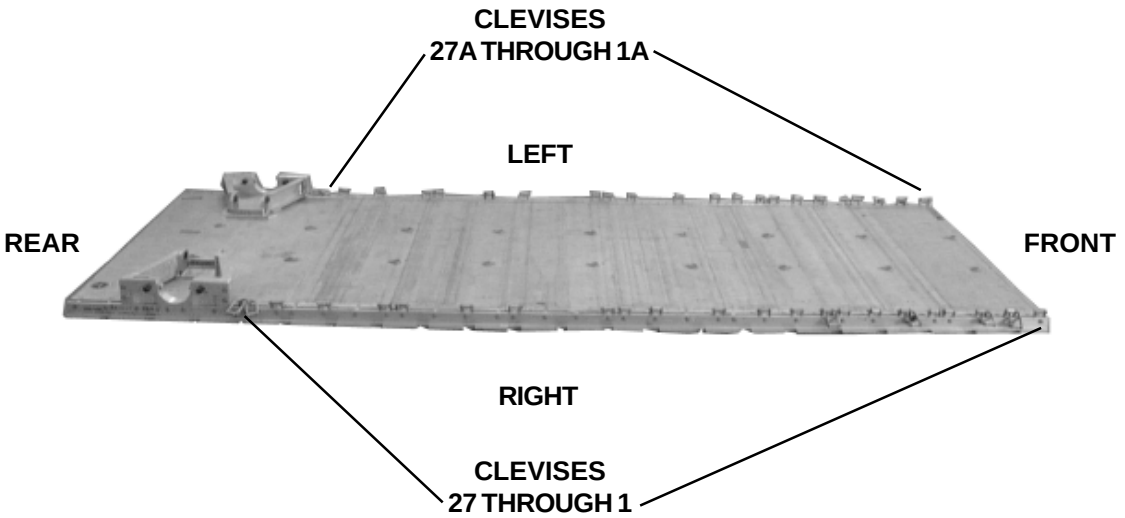


Figure 6-1. M119 105-Millimeter Howitzer



Step:

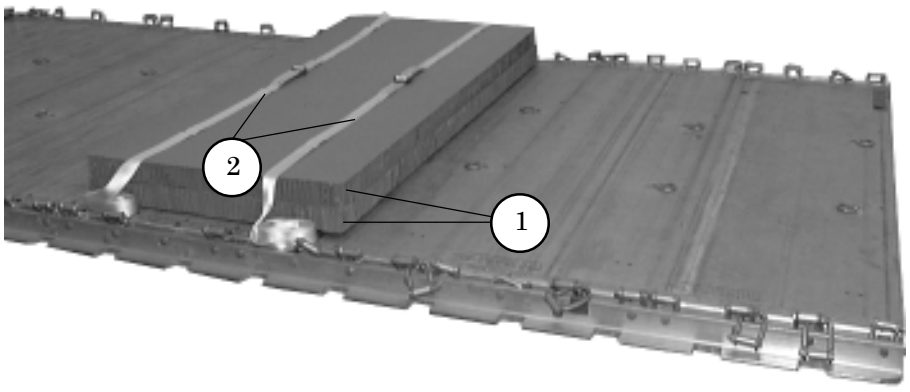
1. Starting at the front of each platform side rail, install clevises on the bushings bolted on holes 1, 2 (double), 3 (double), 4, 5, 6 (double), 7, 8, 9 (double), 10, 11, 13, 15, 16, 17, 20, 22, 24, 25, 27, 29, 30 (triple).
2. Starting at the front of the platform, number the clevises bolted to the right side from 1 through 27 and those bolted to the left side from 1A through 27A.
3. Label the tiedown rings according to Chapter 3 of this manual.

Figure 6-2. Platform Prepared

STOWING ACCOMPANYING LOAD

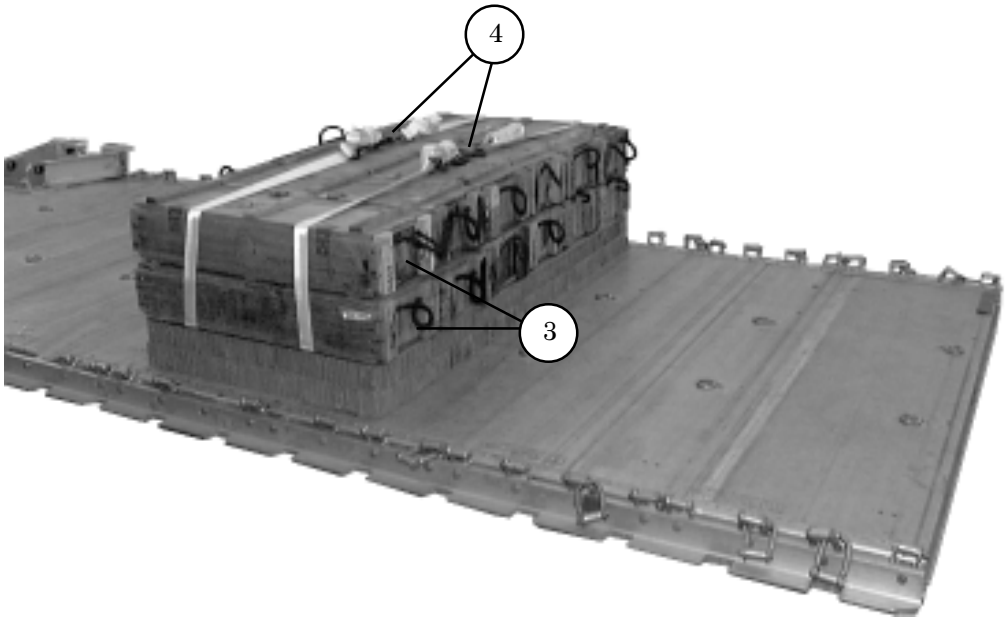
6-3. Stow the accompanying load of 24 boxes of 105-mm ammunition weighing 2,400 pounds as shown in Figures 6-3 through 6-5. Six boxes of fuses will be stowed after the gun is lashed to the platform. When hazardous materials are rigged as part of the load, they must be packaged, marked, and labeled according to AFJMAN 24-204/TM 38-250.

CAUTION
Only ammunition listed in FM 10-500-53/ MCRP 4-3.8/TO 13C7-18-41 may be airdropped.



1. Center two 36- by 73-inch pieces of honeycomb 60 inches from the front edge of the platform.
2. Form two 30-foot lashings according to Chapter 3 of this manual and lay them side to side on the honeycomb.

Figure 6-3. First Stack of Ammunition Secured with Lashings

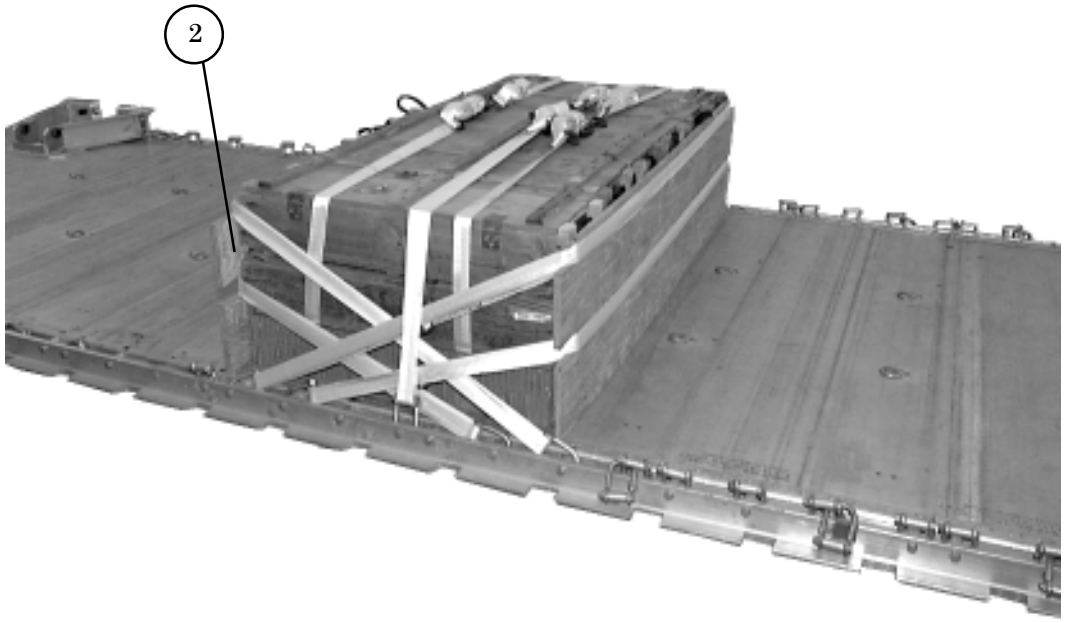


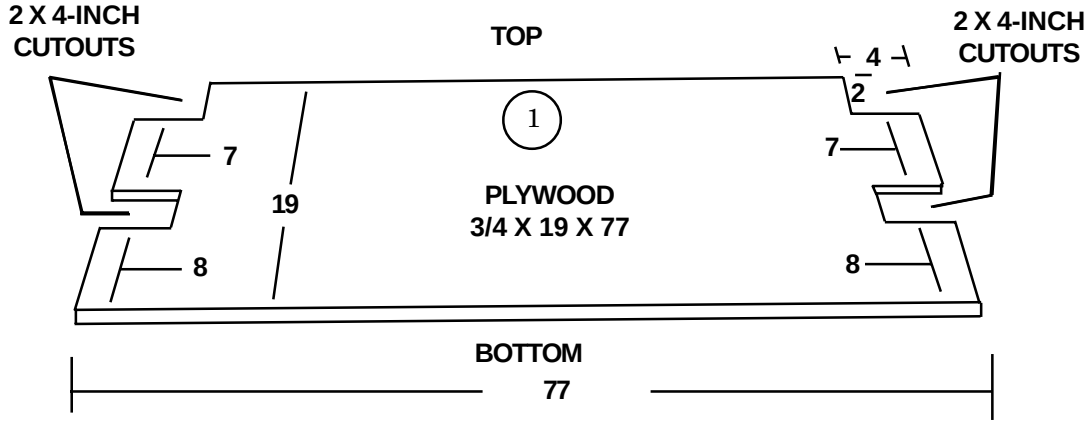
3 Place 14 105-mm ammunition boxes on the honeycomb.

4 Secure the 30-foot lashings with D-rings and load binders.

Figure 6-3. First Stack of Ammunition Secured with Lashings (Continued)

Notes: 1. All measurements are given in inches.
2. This drawing is not drawn to scale.

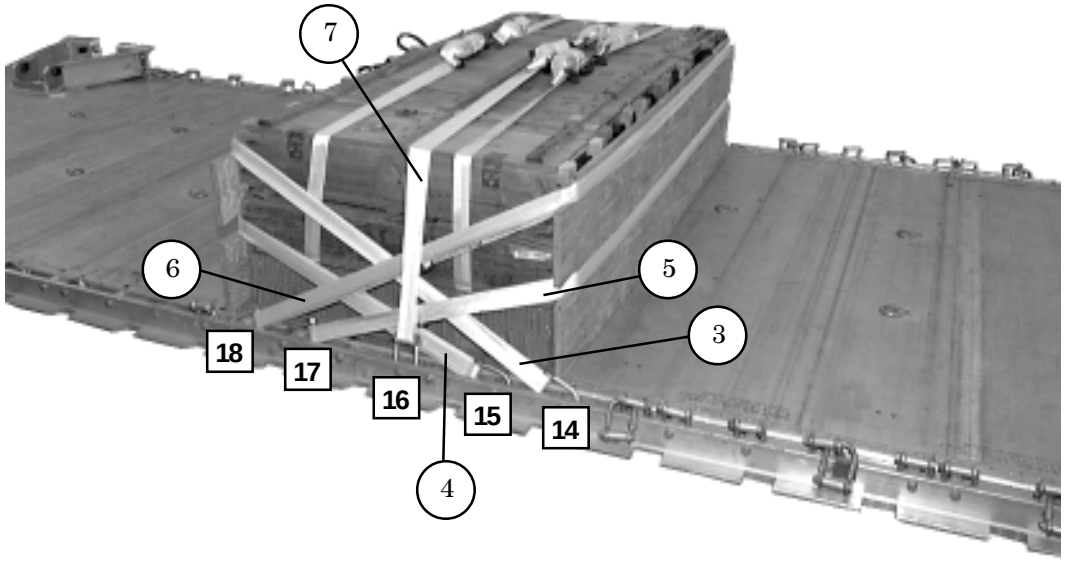




(1) Cut four endboards as shown using 3/4- by 19- by 77-inch pieces of plywood.

(2) Place one endboard against the rear of the stack of boxes.

Figure 6-4. First Stack of Ammunition Lashed



3 Form seven 30-foot lashings according to Chapter 3 of this manual. Pass the ends of a 30-foot lashing through clevises 14 and 14A and through the upper cutouts in the endboard. Secure the lashing in the center of the end board with two D-rings and a load binder.

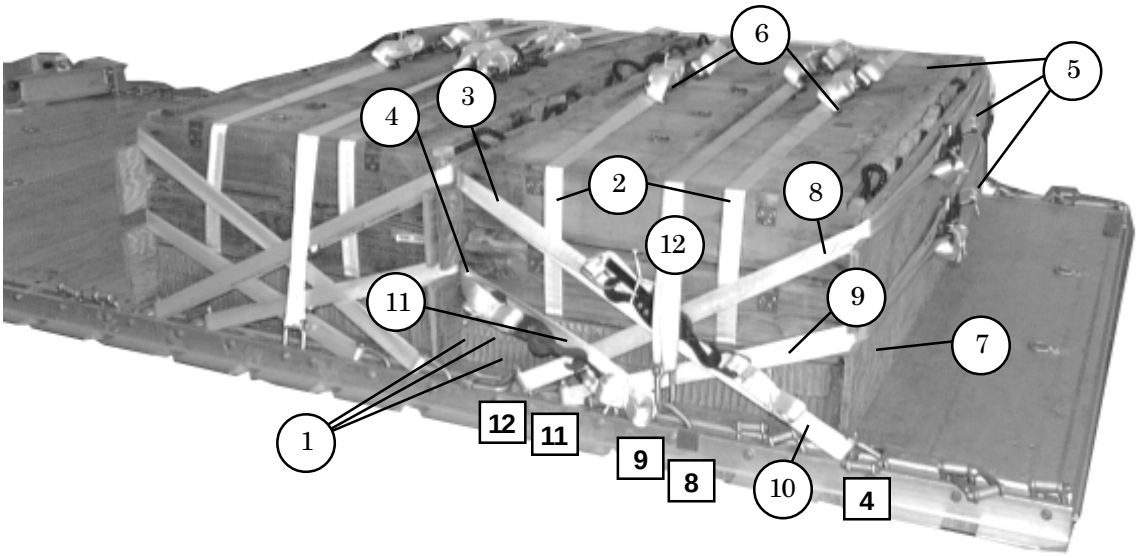
4 Pass the ends of a 30-foot lashing through clevises 15 and 15A and through the lower cutouts in the rear endboard. Secure the lashing in the center of the end board with two D-rings and a load binder.

5 Place an endboard against the front of the stack of boxes. Pass the ends of a 30-foot lashing through clevises 17 and 17A and through the lower cutouts in the endboard. Secure the lashing at the side of the load with two D-rings and a load binder.

6 Pass the ends of a 30-foot lashing through clevises 18 and 18A and through the upper slots in the endboard. Secure the lashing at the side of the load with two D-rings and a load binder.

7 Pass the ends of a 30-foot lashing through clevises 16 and 16A and over the top of the stack of boxes. Secure the lashing in the center of the boxes with two D-rings and a load binder.

Figure 6-4. First Stack of Ammunition Lashed (Continued)



1. Set a third endboard against the front of the stack. Center two 36- by 73-inch pieces of honeycomb flush against the endboard.
2. Form two 30-foot lashings according to Chapter 3 of this manual and lay them side to side on the honeycomb.
3. Pre-position a 30-foot lashing through clevis 4A and through the upper cutouts.
4. Pre-position a 30-foot lashing through clevis 8A and through the lower cutouts.
5. Place 14 105mm ammunition boxes on the honeycomb.
6. Secure the 30-foot lashings with D-rings and load binders.
7. Set a fourth endboard against the front of the front stack.
8. Pass the ends of a 30-foot lashing through clevises 12 and 12A and through the top cutout in the endboard. Secure the lashing in the center of the endboard with two D-rings and a load binder.
9. Pass the ends of a 30-foot lashing through clevises 11 and 11A and through the lower cutouts in the endboard. Secure the lashing in the center of the endboard with two D-rings and a load binder.
10. Pass the ends of the pre-positioned 30-foot lashing through clevis 4 and through the upper cutouts in the endboard. Secure the lashing at the side of the load with two D-rings and a load binder.
11. Pass the ends of the pre-positioned 30-foot lashing through clevis 8 and through the upper cutouts in the endboard. Secure the lashing at the side of the load with two D-rings and a load binder.
12. Pass the ends of a 30-foot lashing through clevises 9 and 9A and over the top of the stack of boxes. Secure the lashing in the center of the boxes with two D-rings and a load binder.

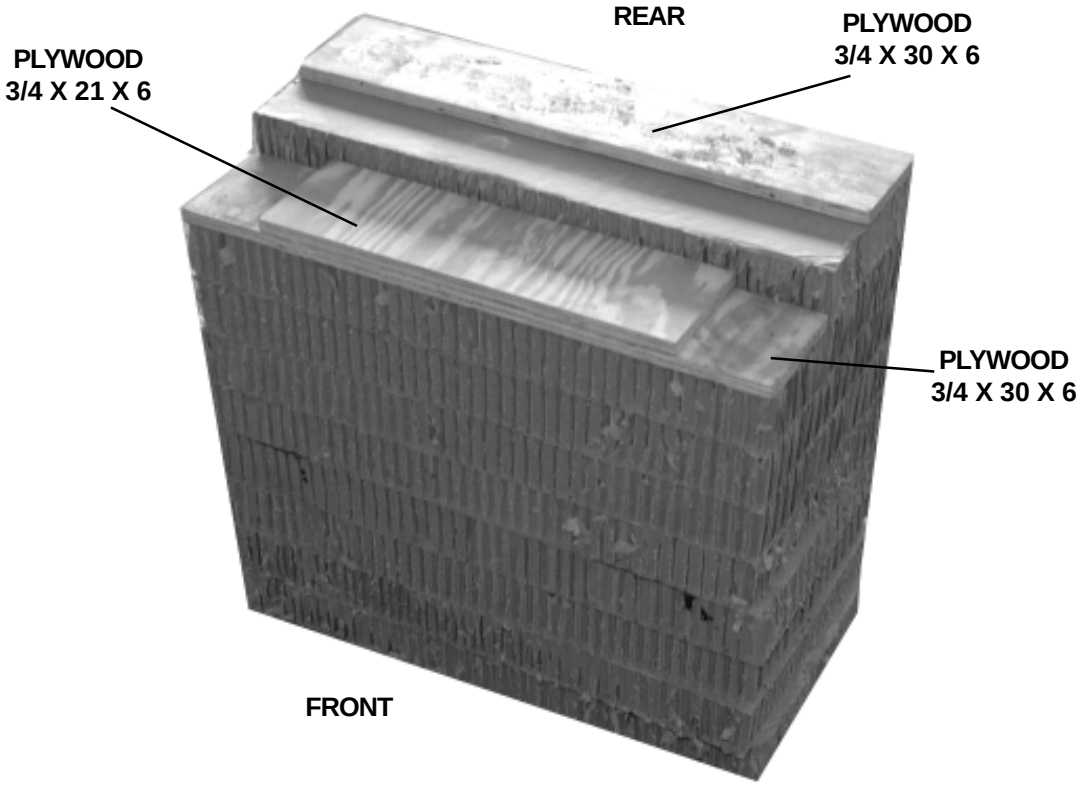
Figure 6-5. Second Stack of Ammunition Lashed

3/4 X 30 X 20

BUILDING AND PLACING HONEYCOMB STACKS

6-4. Build the honeycomb stacks as shown in Figures 6-6 through 6-8. Place them on the platform as shown in Figure 6-9.

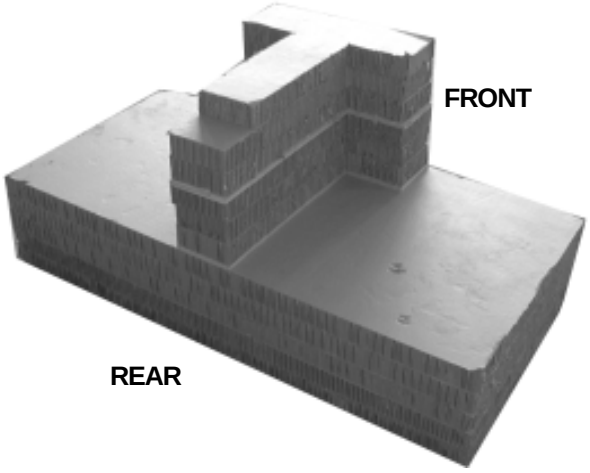
Notes: 1. All measurements are given in inches.
2. This drawing is not drawn to scale.

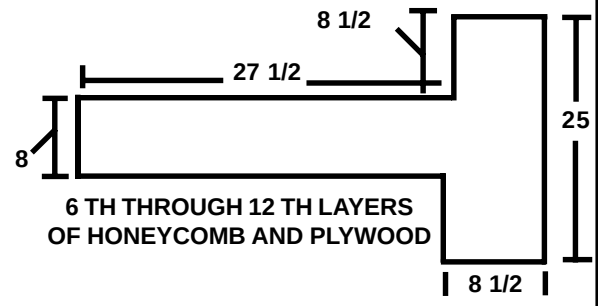


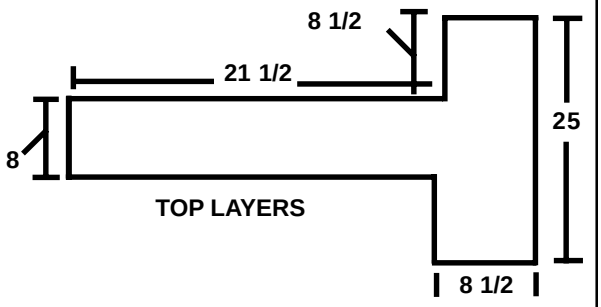
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	8	30	16	Honeycomb	Glue together to form a stack.
	1	30	10	Honeycomb	Glue honeycomb even with front edge of base.
	1	30	6	3/4-inch plywood	Glue plywood even with front edge of honeycomb.
	1	30	6	3/4-inch plywood	Glue plywood flush on rear area of stack.
	1	21	6	3/4-inch plywood	Center and glue plywood on the rear piece of plywood.

Figure 6-6. Honeycomb Stack 1 Prepared

Notes: 1. All measurements are given in inches.
2. This drawing is not drawn to scale.







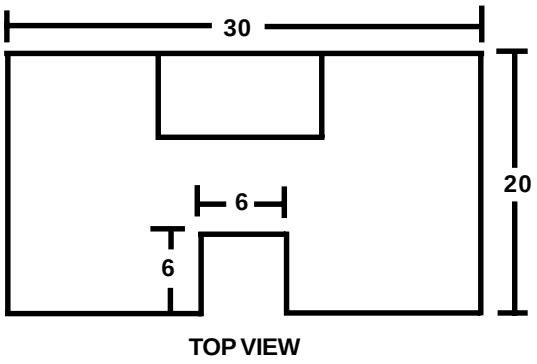
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
2	5	72	36	Honeycomb	Glue together to form a stack.
	1	25	36	3/4-inch plywood	Make cutouts as shown, and glue flush on the honeycomb.
	3	25	36	3/4-inch plywood	Make cutouts as shown, and glue flush on the plywood.
	1	25	36	3/4-inch plywood	Make cutouts as shown, and glue flush on the honeycomb.

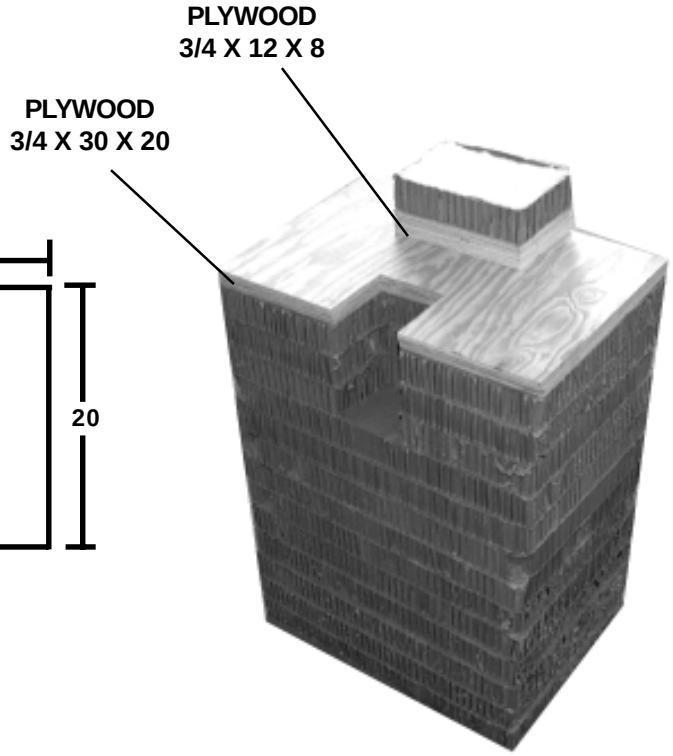
Figure 6-7. Honeycomb Stack 2 Prepared

Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
2	2	25	36	Honeycomb	Make cutouts as shown and place flush on the plywood.
	1	25	30	Honeycomb	Make cutouts as shown for the top layer, and place flush on the stack. Center the T-shaped stack on the base.

Figure 6-7. Honeycomb Stack 2 Prepared (Continued)

Notes: 1. All measurements are given in inches.
2. This drawing is not drawn to scale.





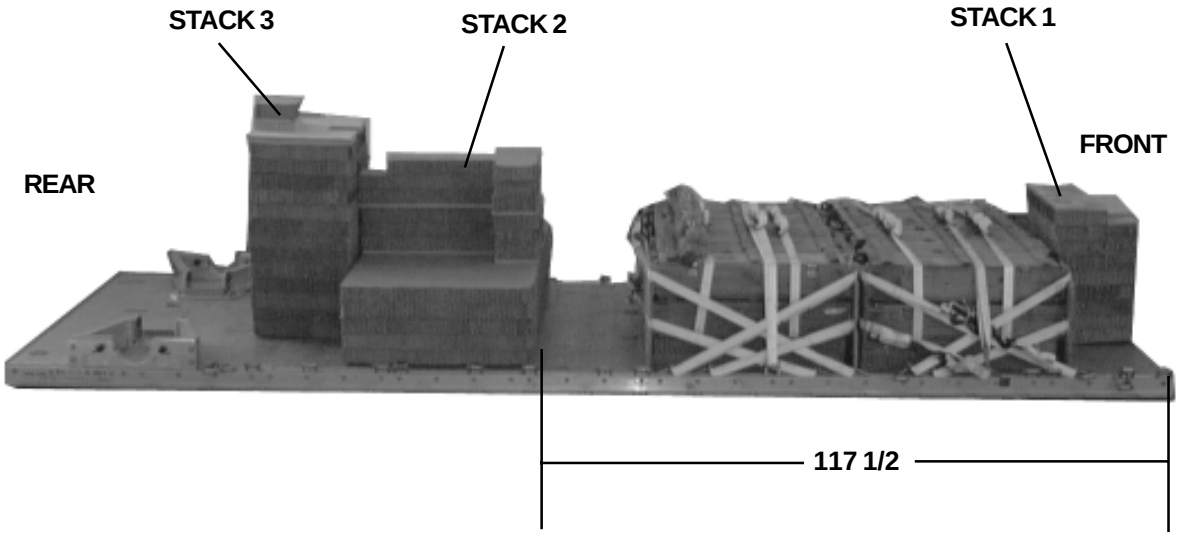
Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
3	10	30	20	Honeycomb	Form a stack.
	3	30	20	Honeycomb	Center a cut 6 inches wide and 6 inches deep in a 30-inch side. Place these pieces flush on the stack with the cutouts to the rear.

Figure 6-8. Honeycomb Stack 3 Prepared

Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
3	2	30	20	3/4-inch plywood	Make same cuts as previously shown and glue on honeycomb.
	3	12	8	3/4-inch plywood	Glue the 12-inch sides flush along the front edge and centered.
	1	12	8	3/4-inch plywood	Glue flush over the plywood placed previously.

Figure 6-8. Honeycomb Stack 3 Prepared (Continued)

Notes: 1. All measurements are given in inches.
2. This drawing is not drawn to scale.

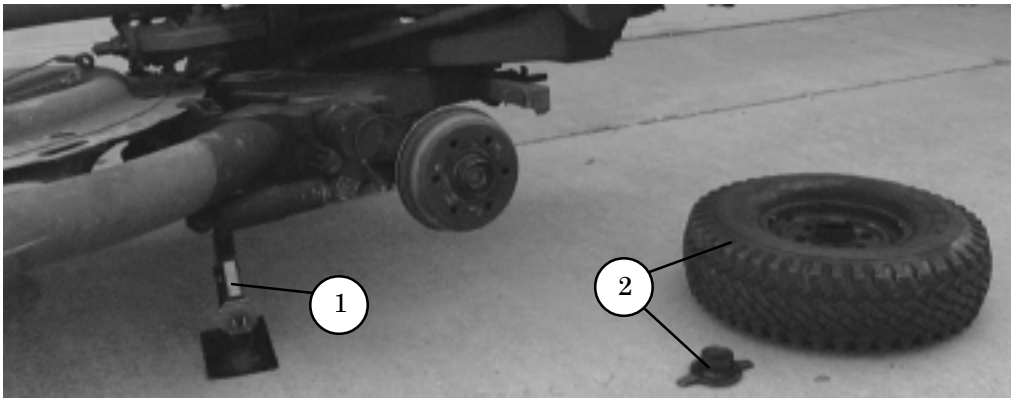


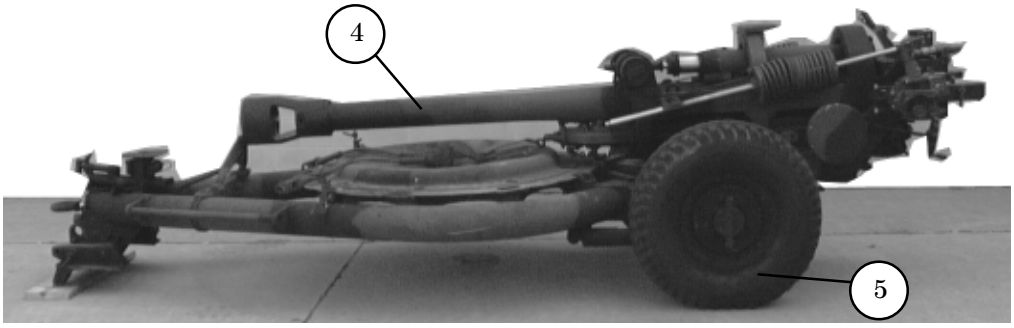
Stack Number	Position of Stack on Platform
	Place stack:
1	Centered flush with the front edge of the platform.
2	Centered 117 1/2 inches from the front edge of the platform.
3	Centered flush against stack 2.

Figure 6-9. Honeycomb Stacks Placed on Platform

PREPARING HOWITZER

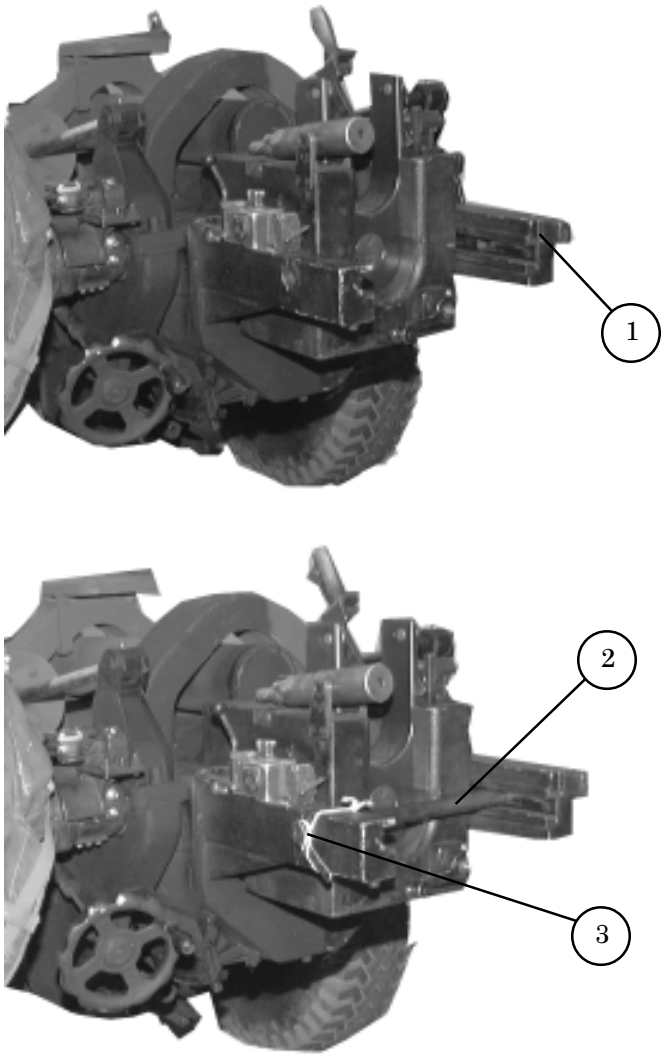
6-5. Prepare the howitzer as shown in Figures 6-10 through 6-19.





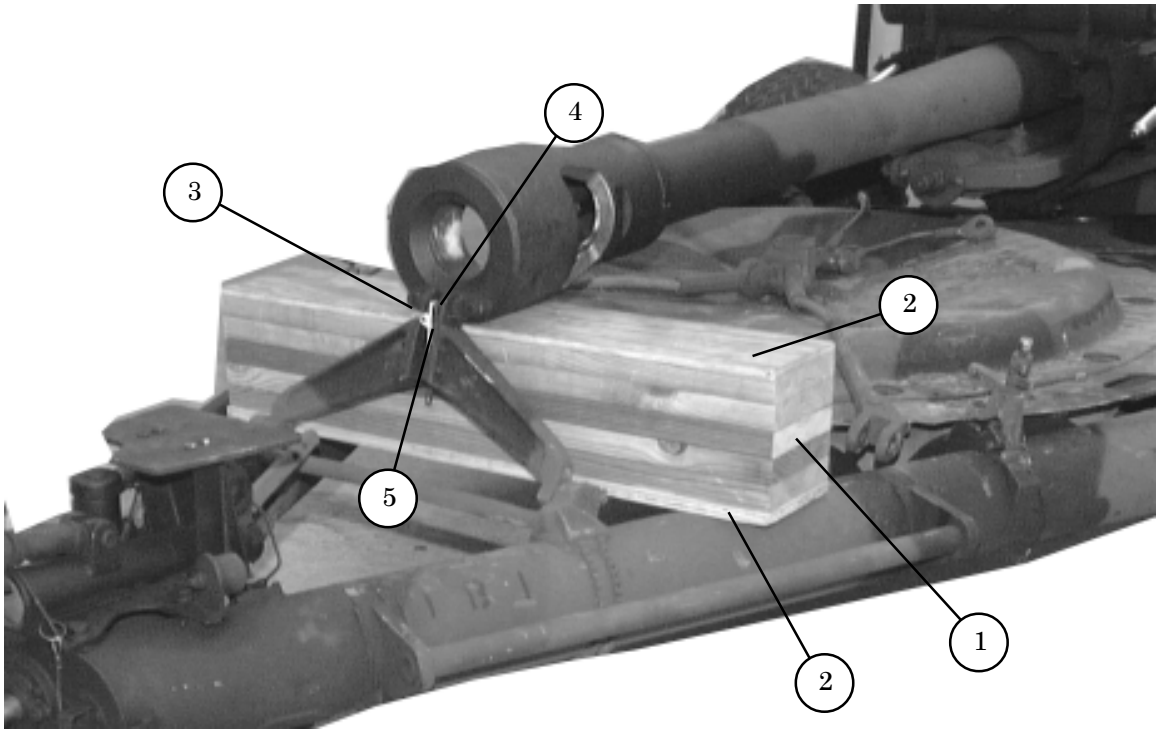
1. Install the jack.
2. Use the mallet to remove the wheel hub and the right front wheel.
3. Place the traveling stay in its locking bracket (not shown).
4. Traverse the barrel to the rear until it is centered between the trails.
5. Replace the wheel and hub. Stow the jack and mallet in their bracket on the left side of the gun.

Figure 6-10. Howitzer Placed in Travel Position



1. Remove the run back stop bar from its storage hole on the right rail.(Bar shown stowed.)
2. Insert the bar from the left side into the holes provided in both rails.
3. Secure the left end of the bar to the left rail with type III nylon cord.

Figure 6-11. Run Back Stop Bar Secured Across Breech



(1) Use 20d nails to nail five 2- by 8- by 40-inch pieces of lumber flush together.

(2) Cut a 3/4- by 7 1/2- by 40-inch piece and a 1/2- by 7 1/2- by 40-inch piece of plywood. Nail one piece flush to each side of the stack of boards.

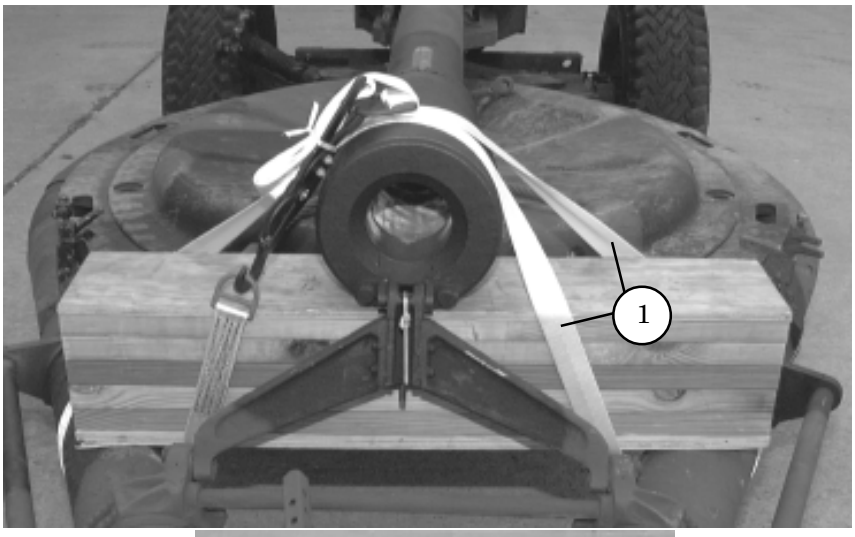
Note: Be sure that the wood support fits snugly under the muzzle brake when the latch bracket is in place. Adjust the plywood thickness, if necessary, to ensure a snug fit.

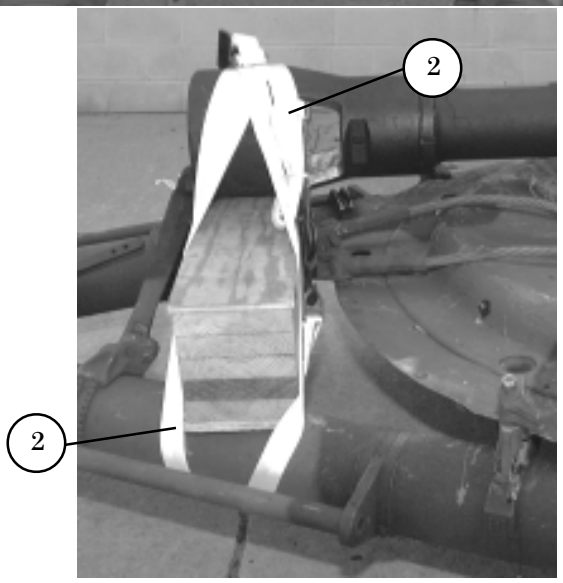
(3) Center the support on the trails under the muzzle brake. Align the rear edge of the support with the edge of the muzzle brake.

(4) Swing the latch bracket assembly up to the muzzle brake. Lock the latch bracket assembly to the fitting on the muzzle brake.

(5) Secure the latch bracket with type III nylon cord.

Figure 6-12. Muzzle Brake Support Constructed and Placed

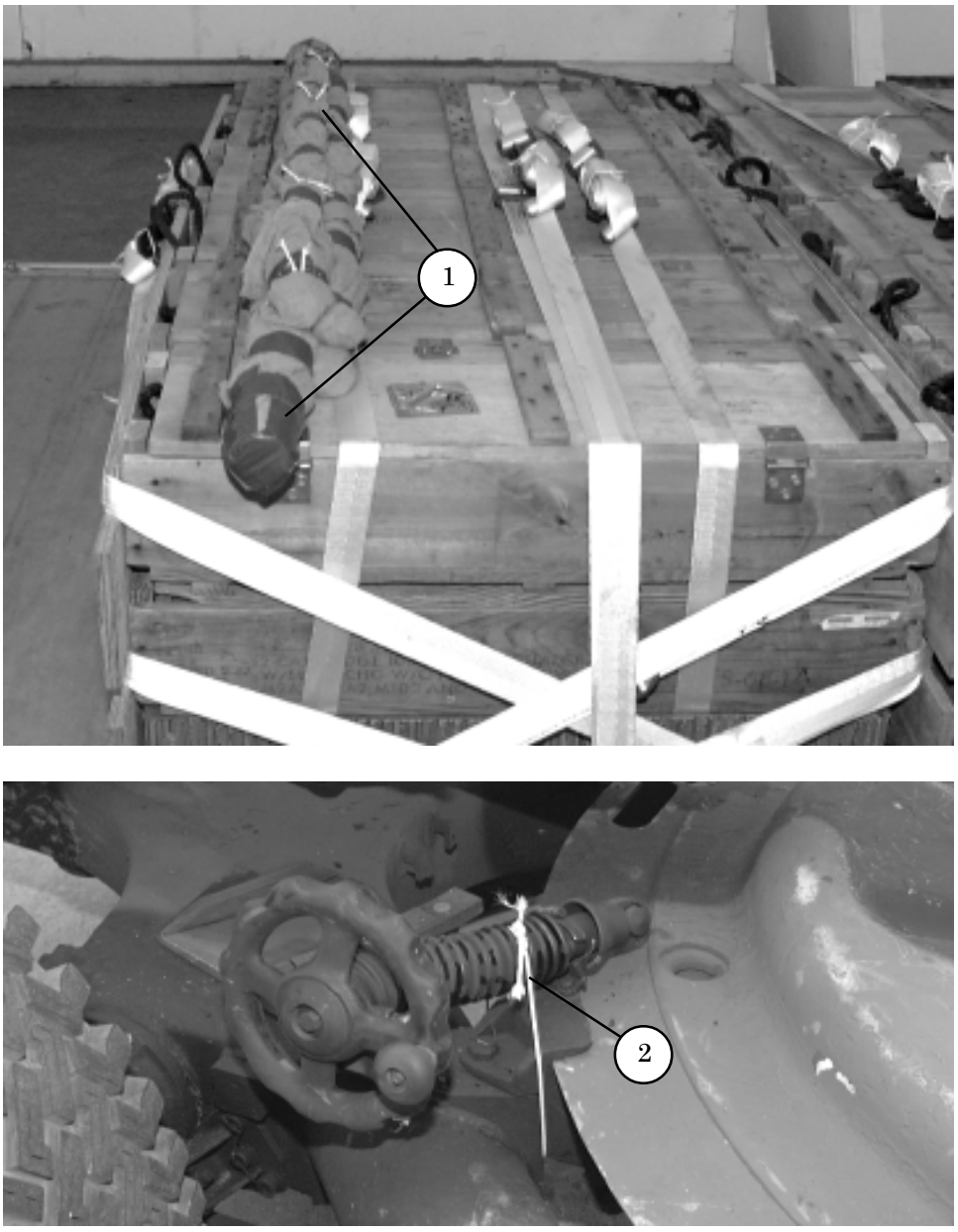




1. Run a 15-foot lashing from the front of the support, around the left trail, behind the support, over the muzzle brake, in front of the support, under the right trail, and over the muzzle brake. Secure it on the left side of the muzzle brake with a D-ring and a load binder.

2. Beginning behind the support on the right side, run a 15-foot lashing under the right trail, in front of the support, up over the muzzle brake, behind the support, under the left trail, and over the muzzle brake. Secure it on the right side and behind the support with a D-ring and a load binder.

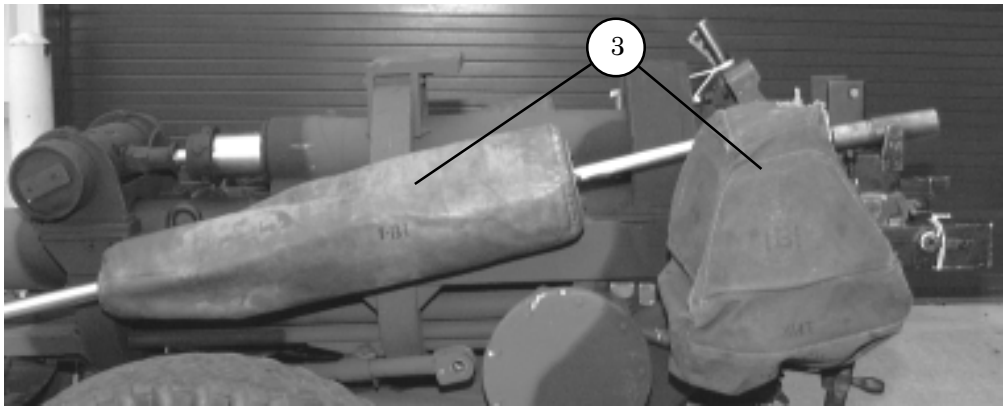
Figure 6-13. Muzzle Brake Support Secured

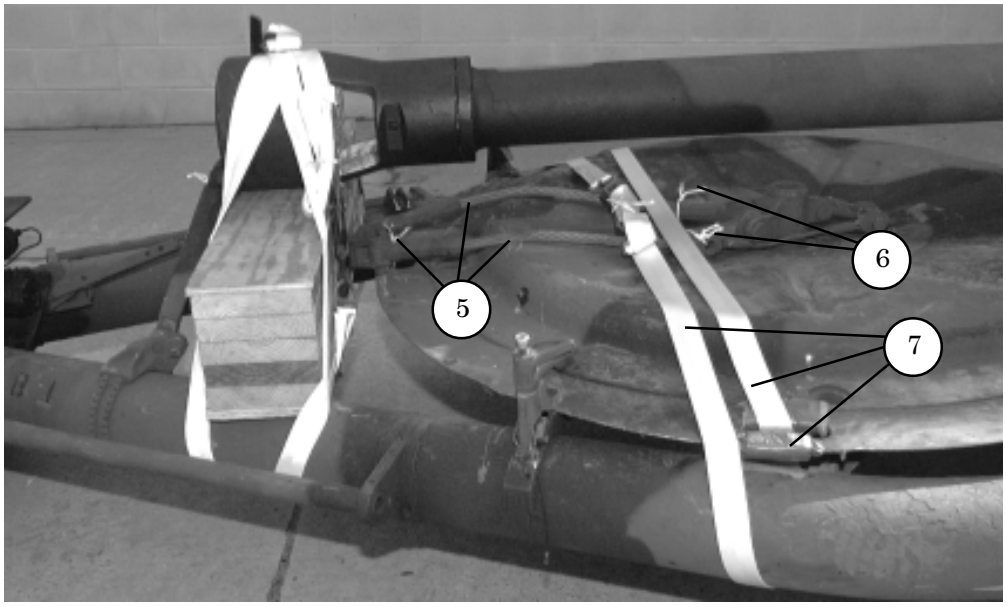


1. Wrap the aiming poles, trail lifting bar, rammer staff, and barrel brush with cellulose wadding. Tie them to the rear ammunition box lashing with type III nylon cord.

2. Remove the traversing wheel (not shown). Secure it to its bracket on the left trail with type III nylon cord.

Figure 6-14. Howitzer Equipment Stowed





(3) Cover the sights, and recoil springs with the covers provided.

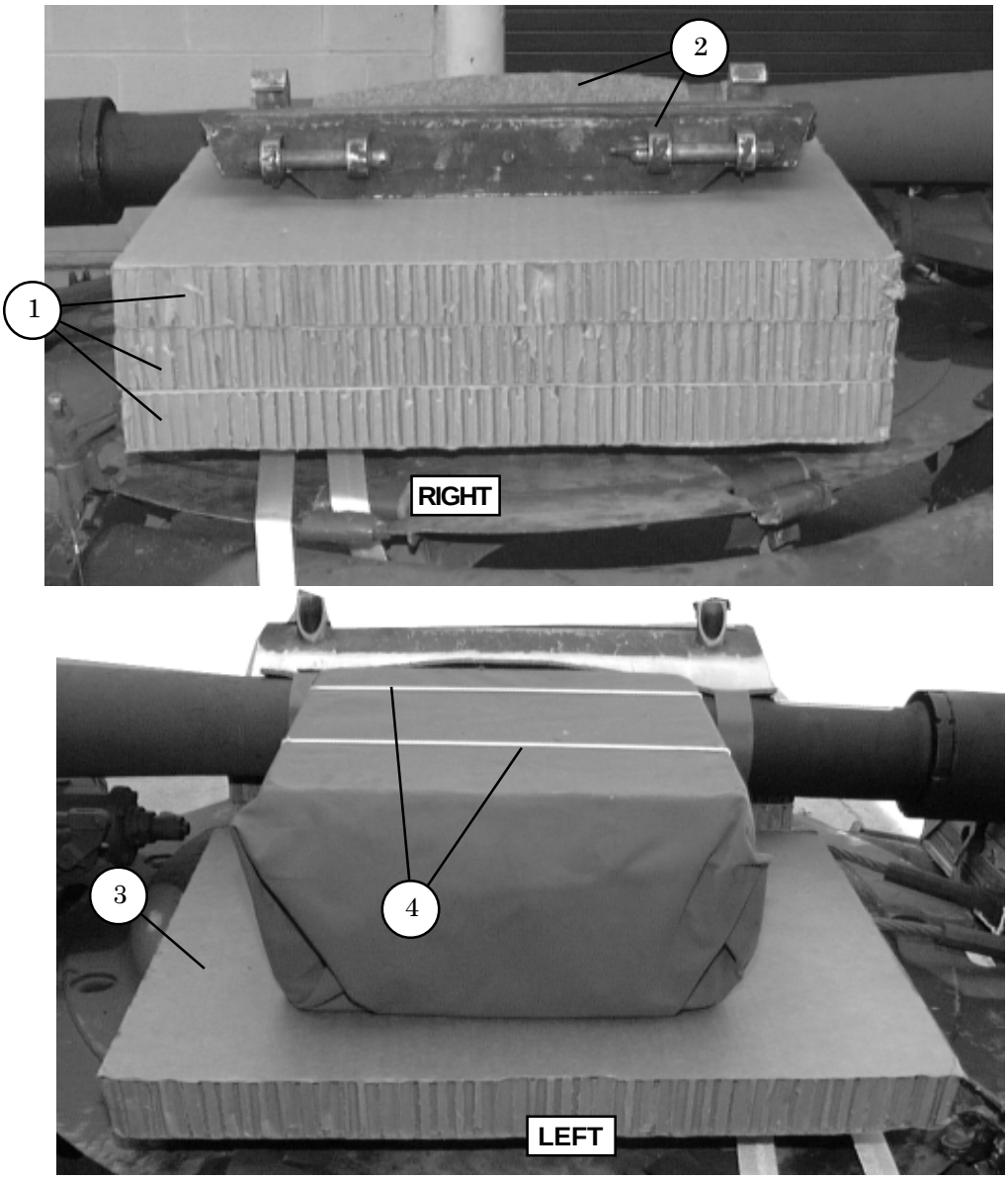
(4) Tie the jack and mallet in their storage bracket with type III nylon cord. (Not shown)

(5) Tie the large firing stay cables to the rear firing platform hole with type III nylon cord.

(6) Tie the smaller firing stay cables to the large firing stay cables with type III nylon cord.

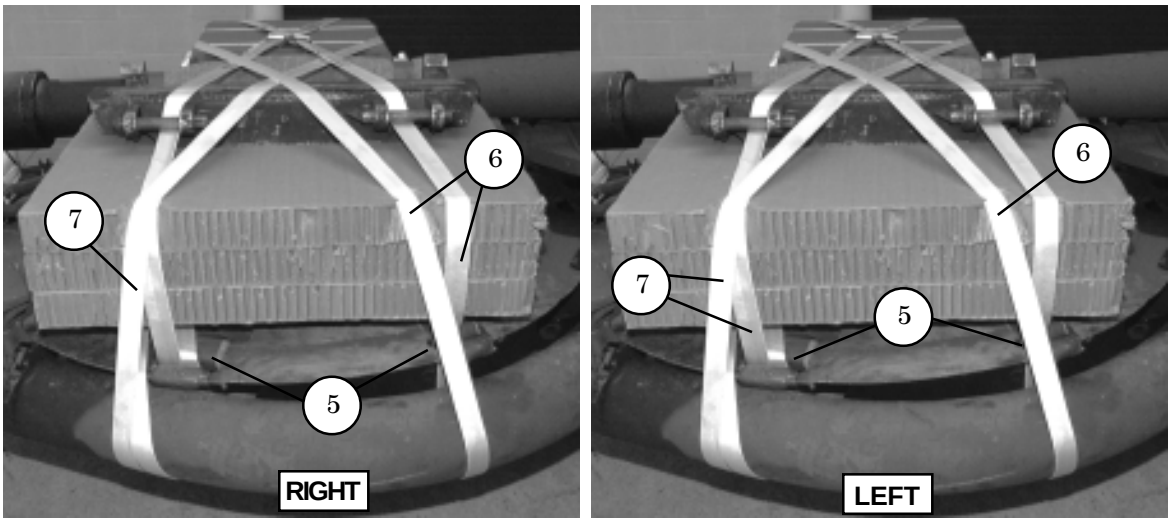
(7) Pad the rear side firing platform holes with 11- by 5-inch felt taped in place. Secure a 15-foot lashing through both holes, around the trails, and over the firing platform.

Figure 6-14. Howitzer Equipment Stowed (Continued)



1. Place a stack of three 25- by 36-inch pieces of honeycomb on the firing platform against the gun tube.
2. Lay an 8- by 36-inch piece of felt against the barrel. Place the field spade against the felt.
3. Place a 25- by 36-inch piece of honeycomb lengthwise on the firing platform on the left side of the gun tube.
4. Wrap the gunner's sight box, tool bag, and camouflage net in the tarpaulin. Tie the bundle securely with type III nylon cord, and place it on the honeycomb.

Figure 6-15. Howitzer Equipment Stowed on Firing Platform

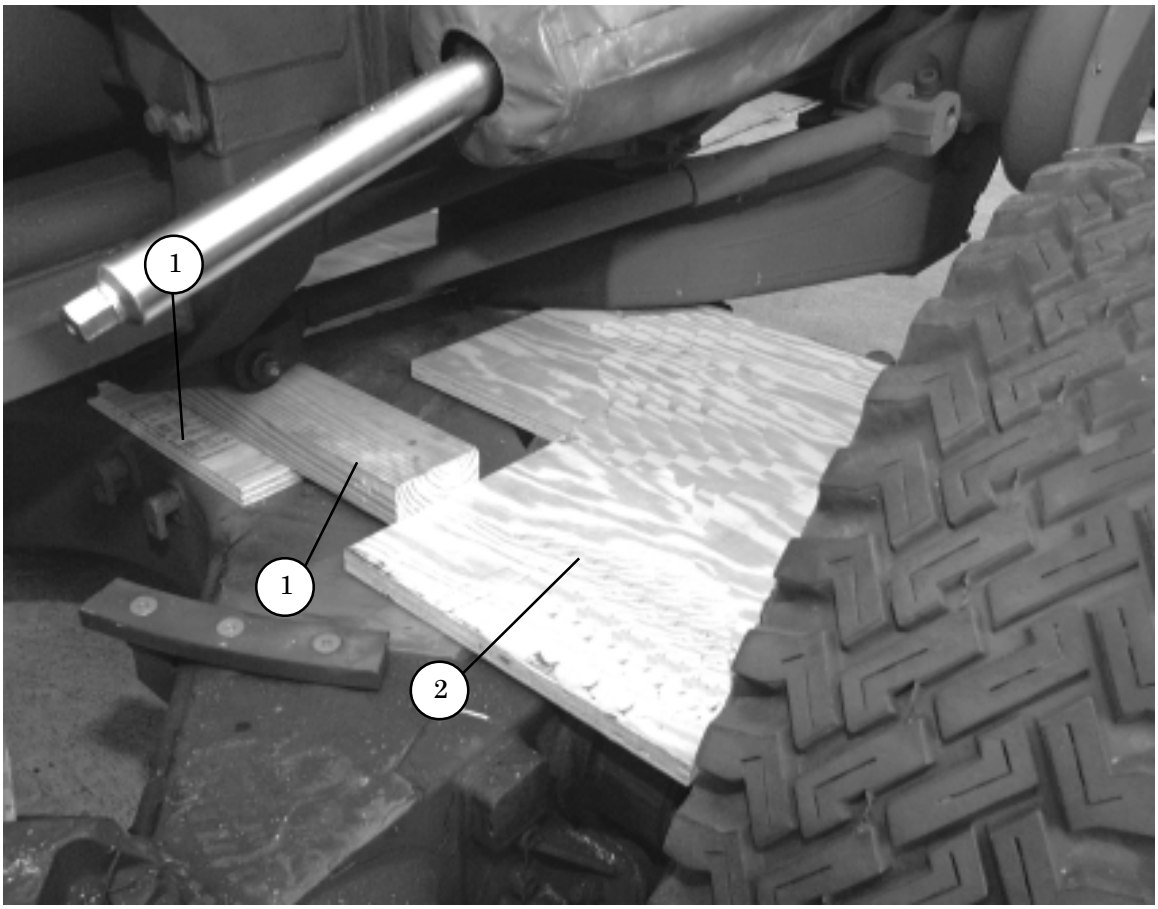


5 Pad the two remaining side firing platform lifting holes on the firing platform with two 5- by 11-inch pieces of felt.

6 Form two 30-foot lashings according to Chapter 3 of this manual. Lay a 30-foot lashing diagonally across the items stowed on the firing platform. Pass one end through the field spade hinge and firing platform lifting hole directly below. Pass the other end over the tarpaulin, down through the nearest firing platform lifting hole, and around the left trail. Bring both free ends to the top of the load, and secure them over the tarpaulin with two D-rings and a load binder.

7 Pass the end of another 30-foot lashing through the second field spade hinge and down through the firing platform lifting hole directly below. Pass the other end over the tarpaulin, down through the remaining firing platform lifting hole, and around the left trail. Bring both free ends to the top of the load, and secure them as in step 6.

Figure 6-15. Howitzer Equipment Stowed on Firing Platform (Continued)

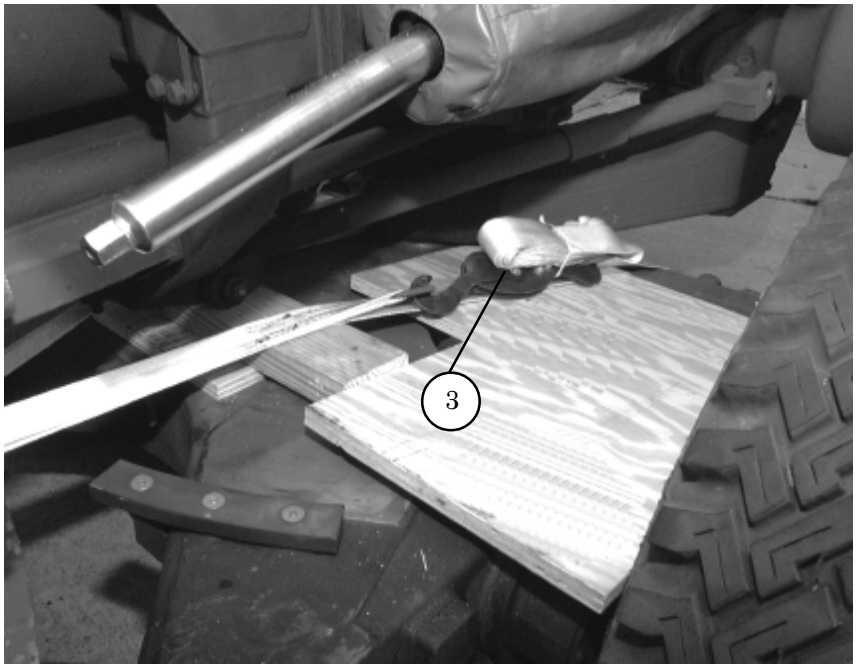


(1) Center a 1/2- by 10 1/2- by 6-inch piece of plywood directly under the hinge of the traveling stay. Center a 2- by 4- by 24-inch piece of lumber over the plywood.

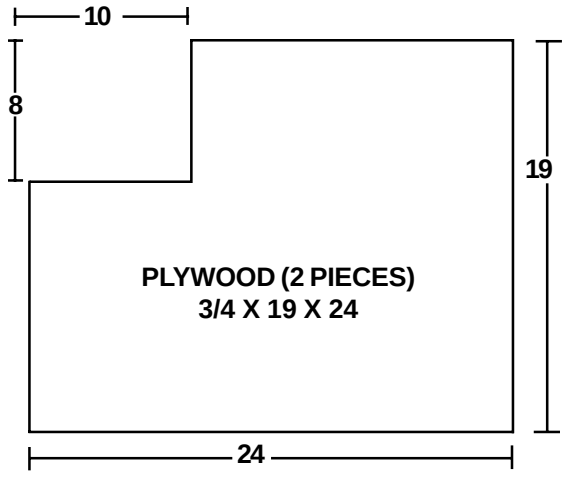
(2) Place a 3/4- by 19- by 24-inch with a 10- by 8-inch cutout piece of plywood on each side of the piece of lumber. See the line drawing on the next page for details.

Note: Be sure that the wood support fits snugly between the traveling stay and the carriage. Adjust the plywood thickness, if necessary, to ensure a snug fit.

Figure 6-16. Wood Under Buffer Assembly Secured



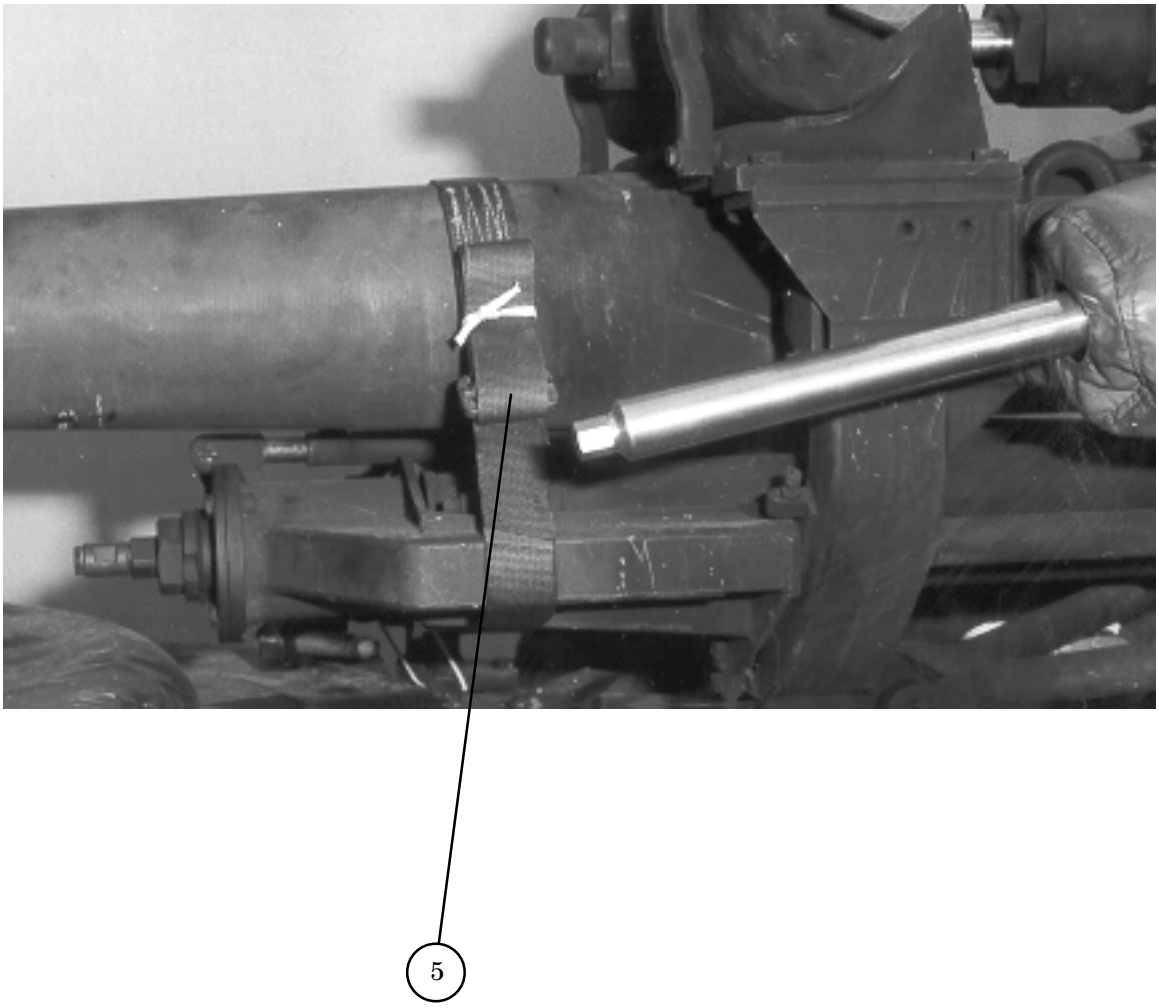
Notes: 1. All measurements are given in inches.
2. This drawing is not drawn to scale.



(3) Pad the front firing platform hole with cellulose wadding. Pass a 15-foot lashing through the hole, over the lumber placed earlier, and around the brake light bar. Secure the lashing on top with a D-ring and a load binder.

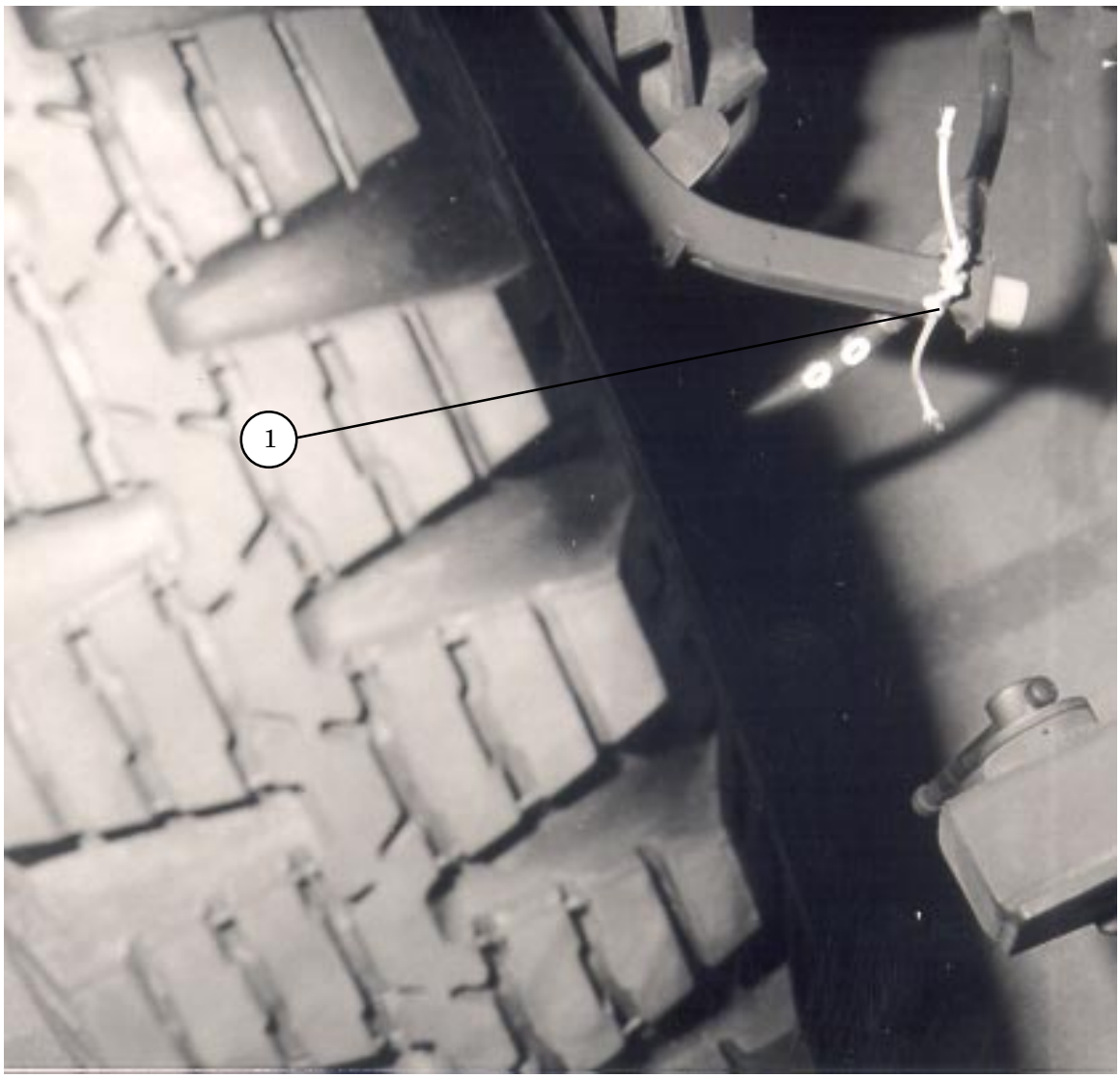
(4) Repeat steps 2 and 3 on the left side, using the same firing platform hole. (Not shown)

Figure 6-16. Wood Under Buffer Assembly Secured (Continued)



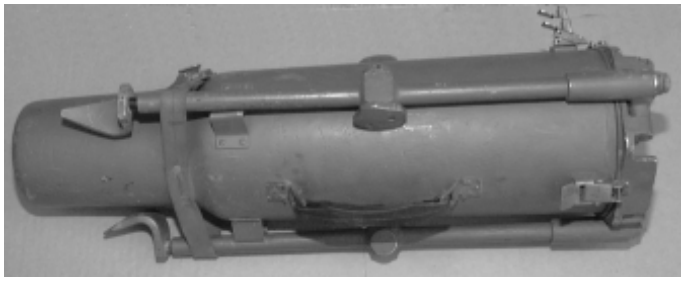
5 Pass an A7A cargo strap around the barrel and under the buffer assembly. Secure the strap with its friction adapter. Tie the excess strap with Type I, 1/4-inch cotton webbing.

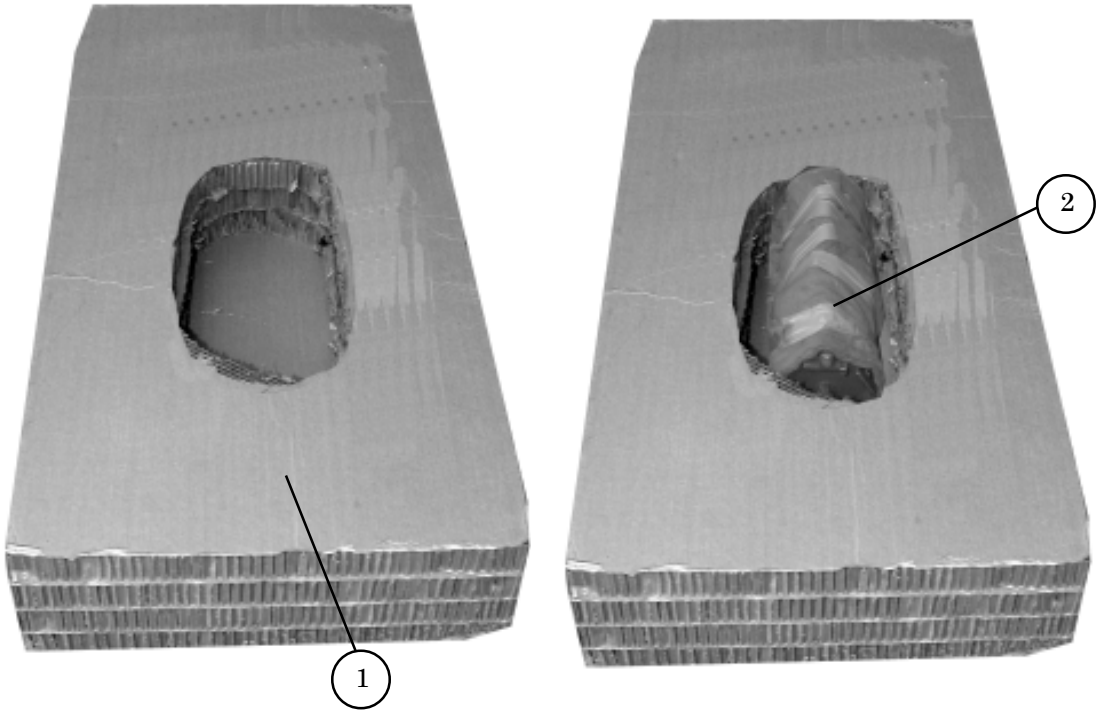
Figure 6-16. Wood Under Buffer Assembly Secured (Continued)



(1) Tie the brake lines to the brake handle with type III nylon cord.

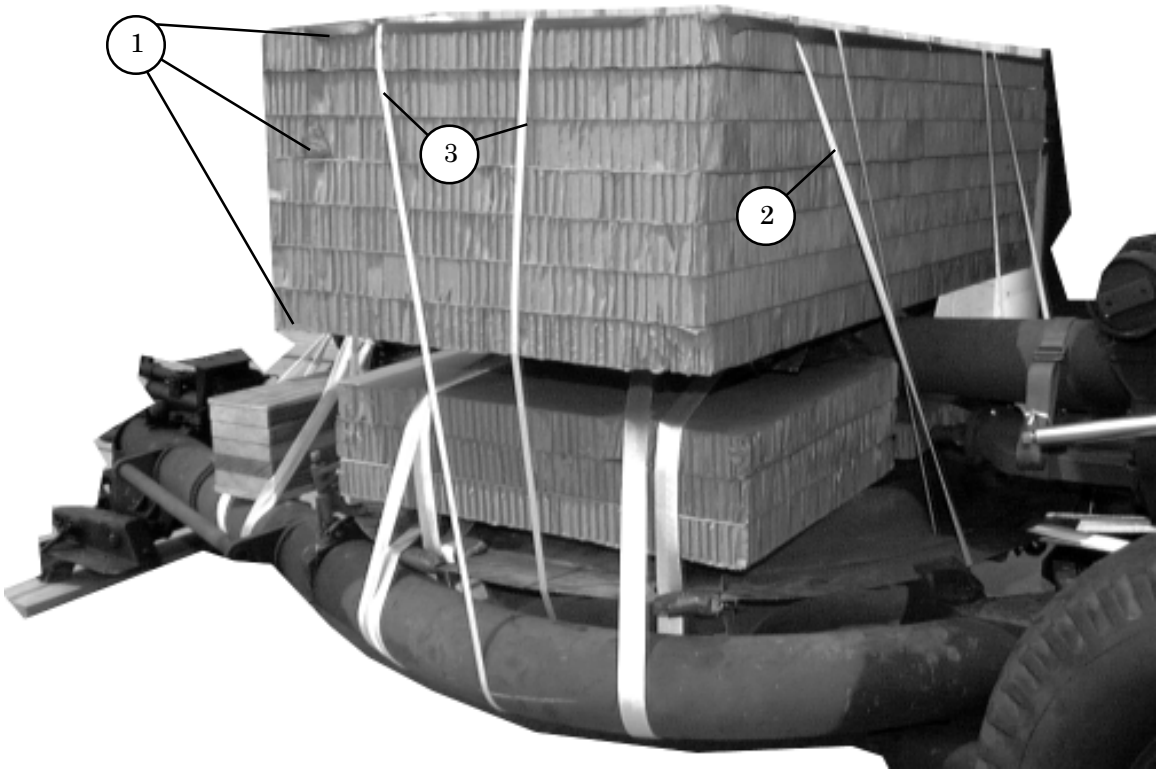
Figure 6-17. Brake Lines Secured to Brake Handle





1. Cut seven 36- by 70-inch pieces of honeycomb. Center a cutout in three of the pieces to fit the collimator. Glue the three pieces with the cutouts flush over a solid piece of honeycomb.
2. Pad the collimator generously with cellulose wadding, tape, and place it in the collimator box.
3. Glue the remaining three pieces of honeycomb together. Tie this solid piece of honeycomb flush over the box with lengths of 1/2-inch tubular nylon webbing. (Not shown)

Figure 6-18. Collimator Stowed

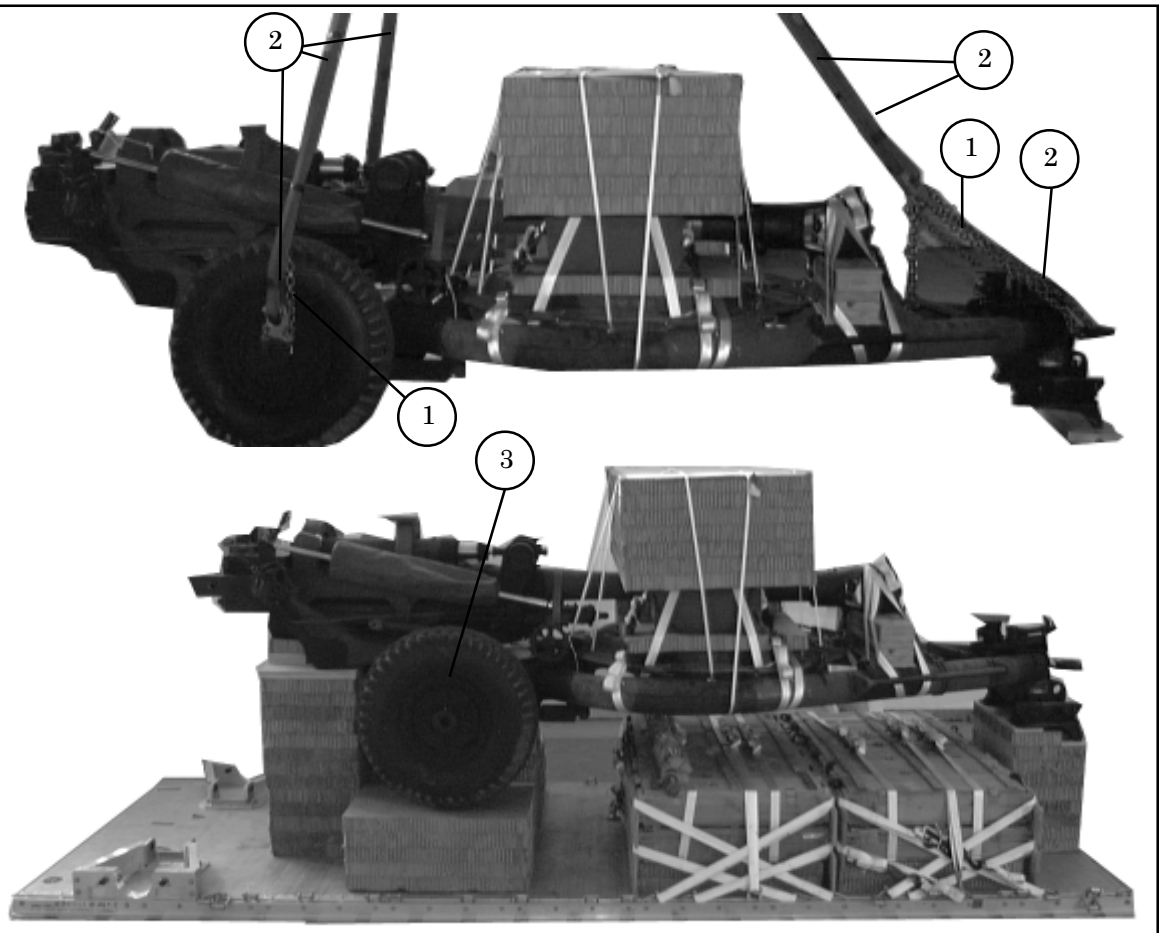


1. Center the collimator across the gun tube and the firing platform. Tape the top edge of the box.
2. Pass two lengths of 1/2-inch tubular nylon webbing under the firing platform and over the box. Tie them tightly with a surgeon's knot and a locking knot and overhand knot in the running ends.
3. Pass one length of 1/2-inch tubular nylon webbing lengthwise over the box. Secure it around the trail at each end with a trucker's hitch.

Figure 6-19. Collimator Box Secured to Load

LIFTING AND POSITIONING HOWITZER

6-6. Lift the howitzer and position it on the honeycomb stacks as shown in Figure 6-20.



(1) Wrap 10,000-pound chains around the wheel hubs, and run a 10,000-pound chain through the lunette.

(2) Attach hooks to the ends of four 11-foot (2-loop), type XXVI nylon slings, and hook the slings to the chains. Adjust the chains, as necessary, to ensure that the howitzer remains level when lifted.

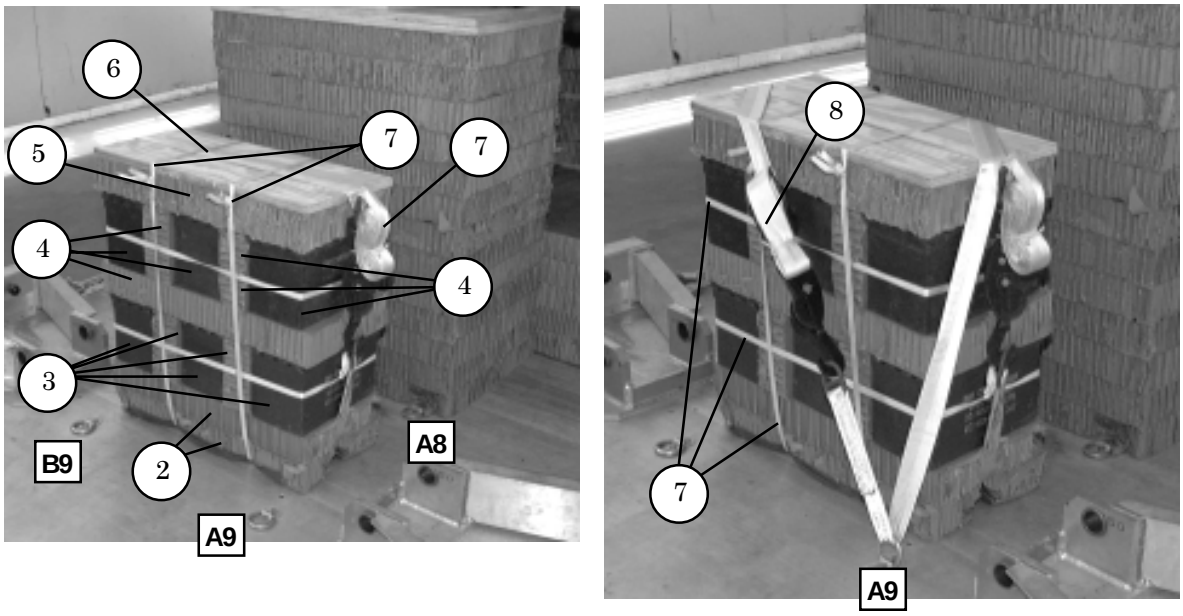
Note: The hooks shown are not standard items. Other hooks available at the rigging facility may be used.

(3) Center the howitzer on the platform, and on the stacks as shown.

Figure 6-20. Howitzer Lifted and Positioned on Platform

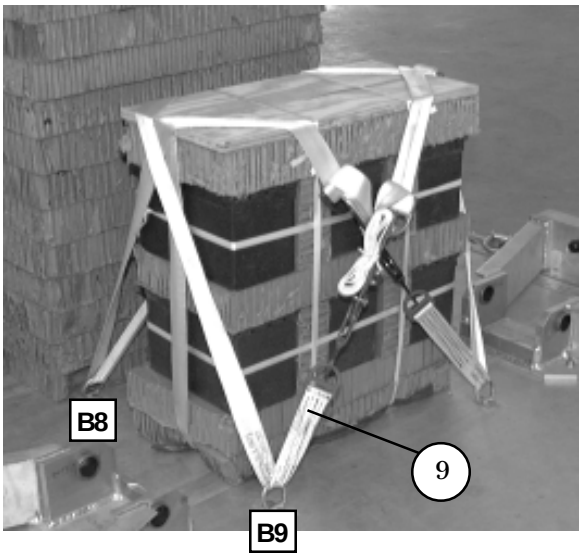
STOWING FUSE BOXES

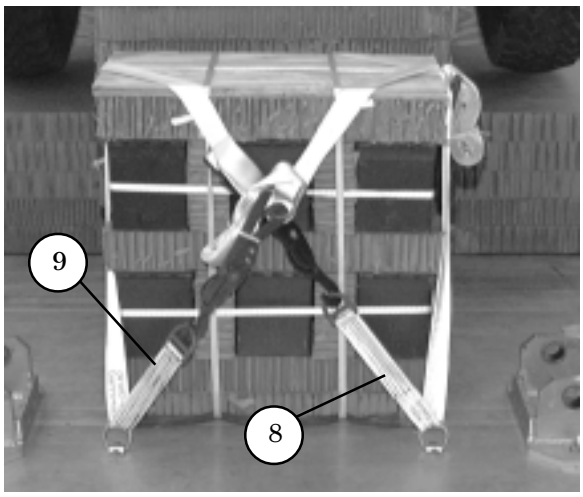
6-7. Stow six fuse boxes on the back of the platform as shown in Figure 6-21.



1. Preposition a lashing across the platform centered between deck rings A8 and A9. (Not shown)
2. Form two layers of 12- by 25-inch honeycomb as the base and center them between deck rings A and B.
3. Place three fuse boxes on top of the layers with two pieces of 7- by 25-inch honeycomb as inserts.
4. Place another layer of 12- by 25-inch honeycomb on top of the fuses and place three more boxes of fuses with two pieces of 7- by 25-inch honeycomb as inserts.

Figure 6-21. Fuse Boxes Stowed





5. Place a final layer of 12- by 25-inch honeycomb on top of the fuses.

6. Place a 3/4- by 12- by 25-inch piece of plywood on top of the honeycomb to complete the stack.

7. Run a 15-foot tiedown lashing lengthwise around the stack and secure with a D-ring and load binder. Also secure the stack with four pieces of 1/2-inch tubular nylon.

8. Run a 15-foot tiedown lashing through the front deck ring A, over the stack and through the rear deck ring B and secure in the rear of the stack with a D-ring and a load binder.

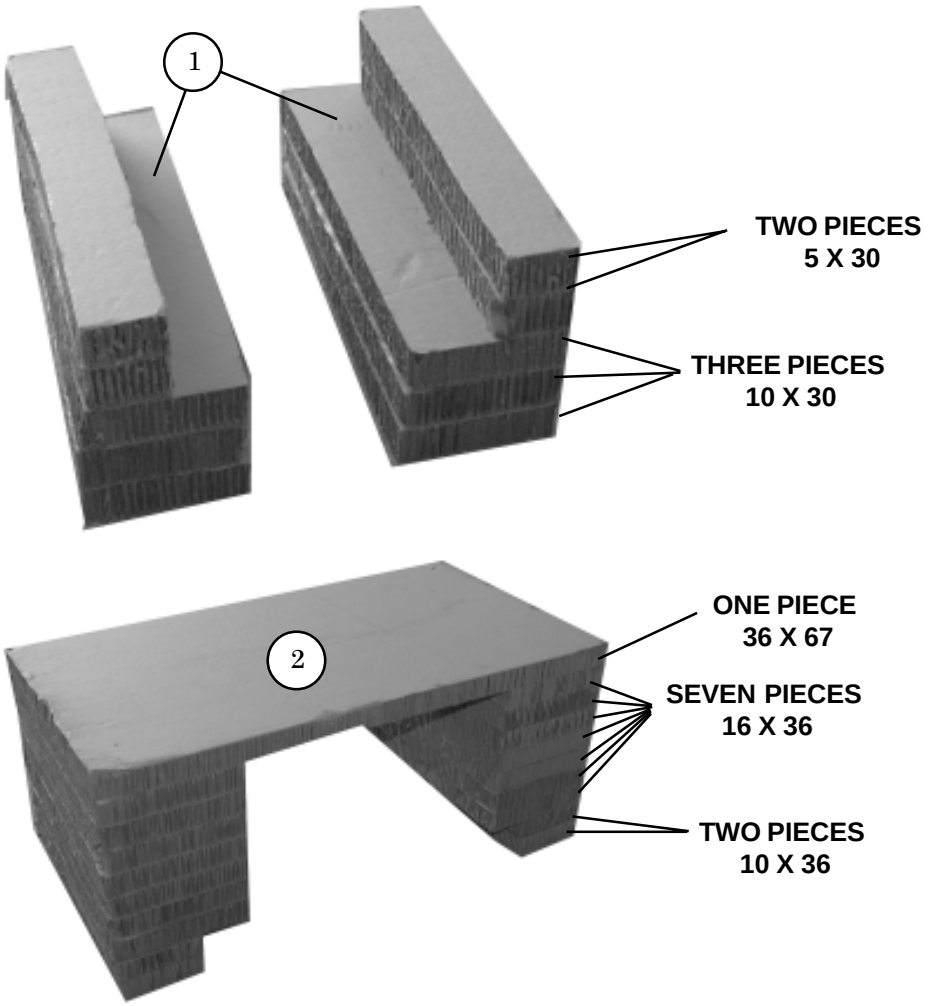
9. Run a 15-foot tiedown lashing through the front deck ring B, over the stack and through the rear deck ring A and secure in the rear of the stack with a D-ring and a load binder.

Figure 6-21. Fuse Boxes Stowed (Continued)

BUILDING AND PLACING THE ATTITUDE CONTROL SYSTEM (ACS) BRIDGE SUPPORT

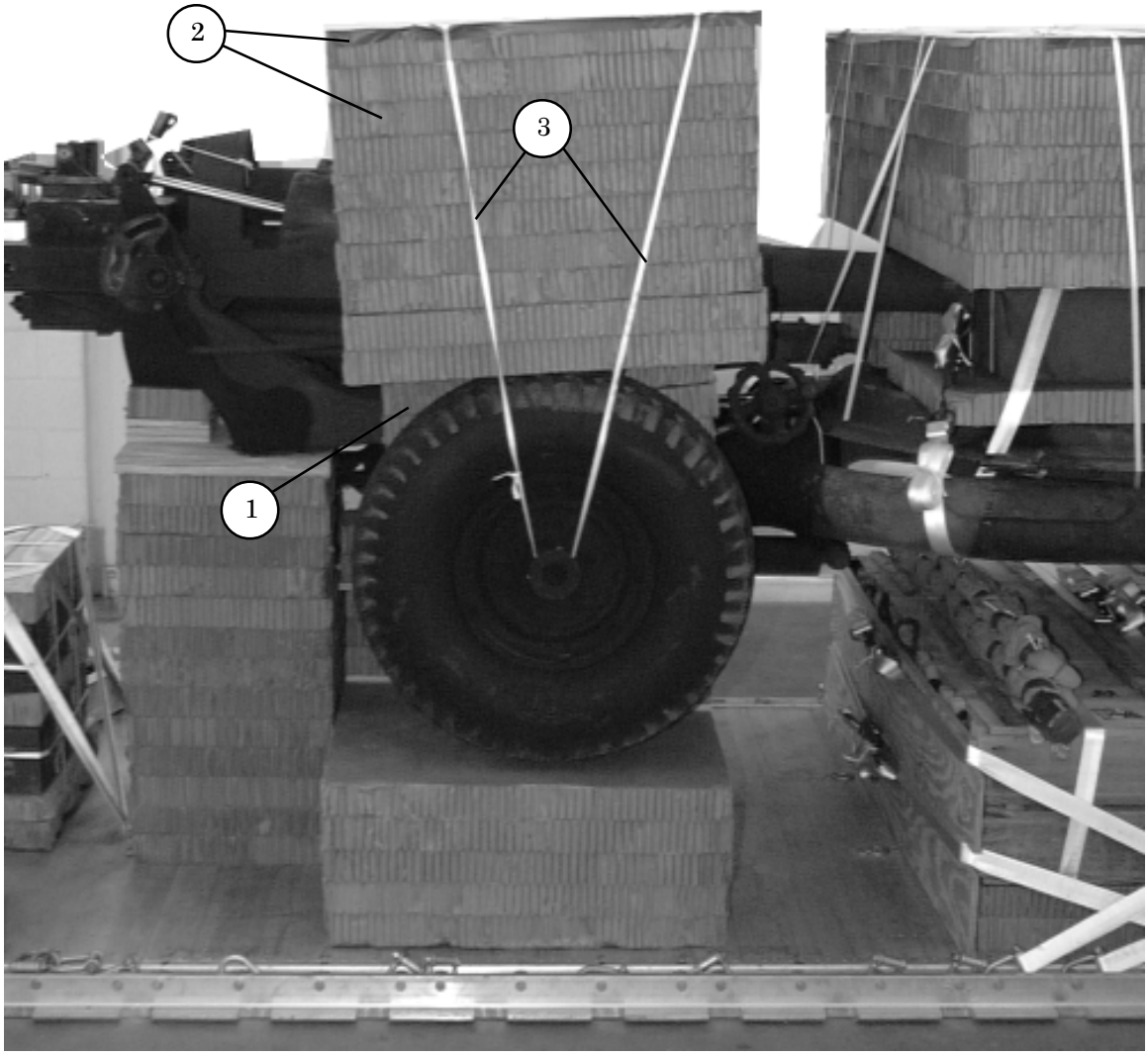
6-8. Build the ACS bridge support as shown in Figure 6-22. Place the ACS bridge support on the load as shown in Figure 6-23.

Note: All measurements are given in inches.



1. Build two stacks to be placed next to the wheels of the howitzer as shown above.
2. Build one stack to be placed on top of the stacks built in step 1.

Figure 6-22. ACS Bridge Support Stacks Built

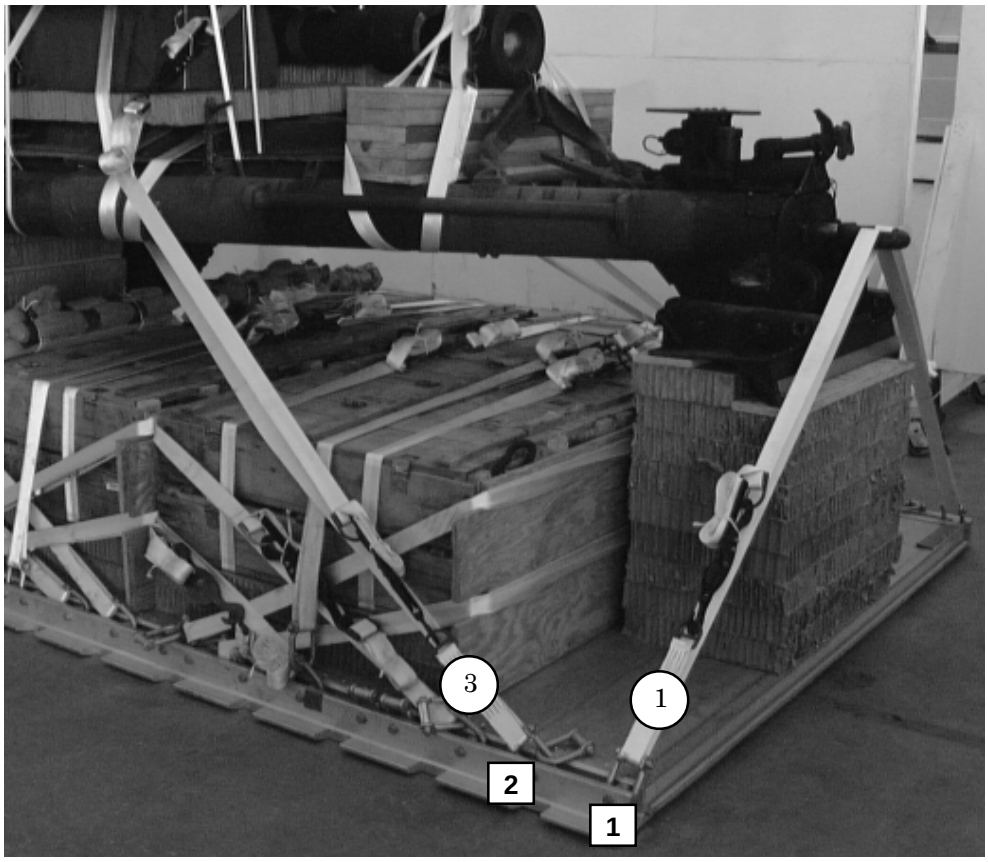


1. Place the two smaller honeycomb stacks previously built next to the inside of each wheel.
2. Tape the edge of the top layer of honeycomb and place the larger stack on top of the stacks in step 1.
3. Secure the stacks to the load using two lengths of 1/2 inch tubular nylon.

Figure 6-23. ACS Bridge Support Stacks Placed on Load

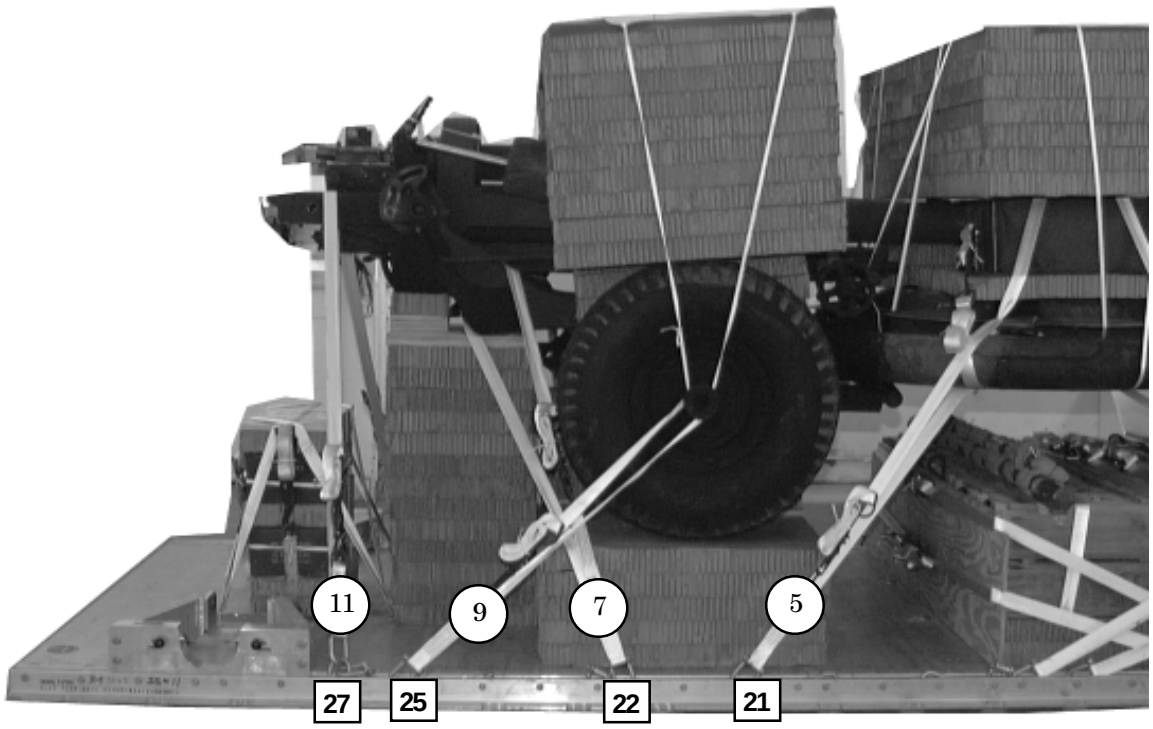
LASHING HOWITZER

6-9. Lash the howitzer to the platform as shown in Figures 6-24 and 6-25. Install and safety the lashings according to Chapter 3 of this manual.



Lashing Number	Tiedown Clevis Number	Instructions
		Pass lashing:
1	1	Through lunette, right side.
2	1A	Through lunette, left side.
3	2	Through hole in firing platform and around trail, right side.
4	2A	Through hole in firing platform and around trail, left side.

Figure 6-24. Lashings 1 through 4 Installed

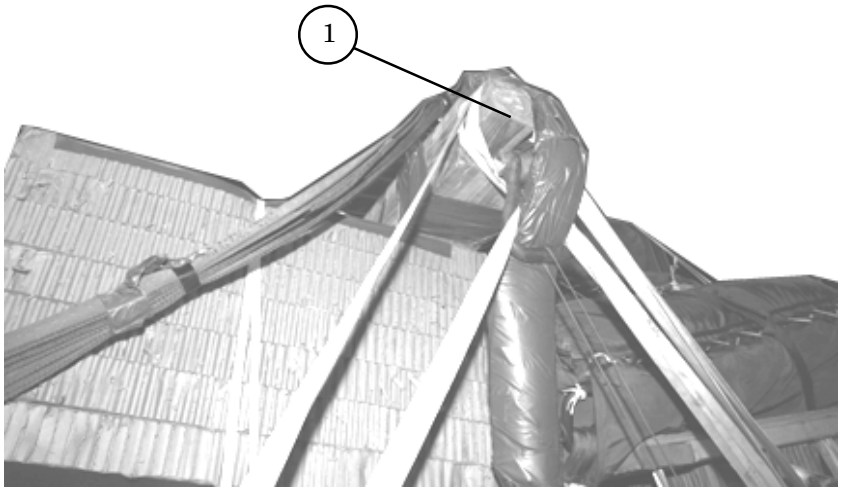


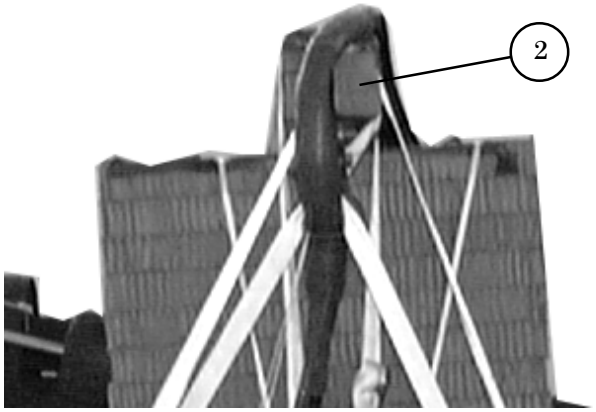
Lashing Number	Tiedown Clevis Number	Instructions
		Pass lashing:
5	21	Through hole in firing platform and around trail, right side.
6	21A	Through hole in firing platform and around trail, left side.
7	22	Around the arm, near the tire, right side.
8	22A	Around the arm, near the tire, left side.
9	25	Through wheel hub, right side.
10	25A	Through wheel hub, left side.
11	27	Around rail, right side.
12	27A	Around rail, left side.

Figure 6-25. Lashings 5 through 12 Installed

INSTALLING SUSPENSION SLINGS AND ACS

6-10. Construct, inspect, and position the ACS according to Chapter 3, and as shown in Figure 6-26. Install the suspension slings and secure ACS according to Chapter 3, and as shown in Figure 6-27.



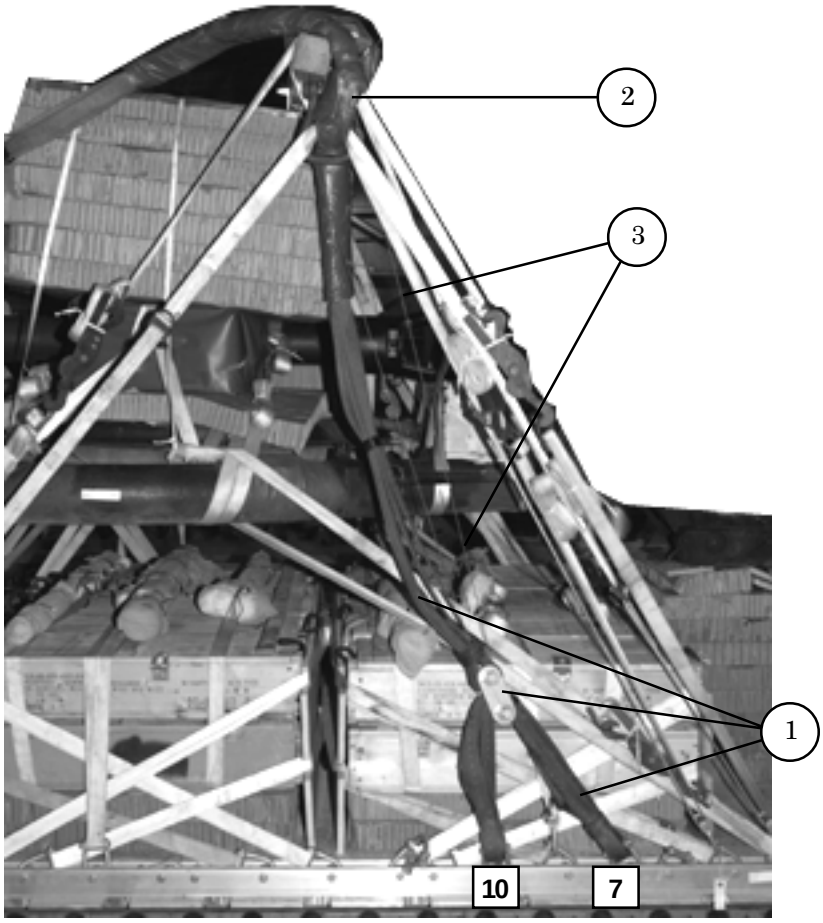


(1) Center the front ACS flush to the front of the honeycomb stack containing the collimator. The ACS 4- by 4-inch lumber must face the rear of the platform.

(2) Center the rear ACS on the rear ACS support stacks in middle with the 4- by 4-inch lumber facing the front of the platform.

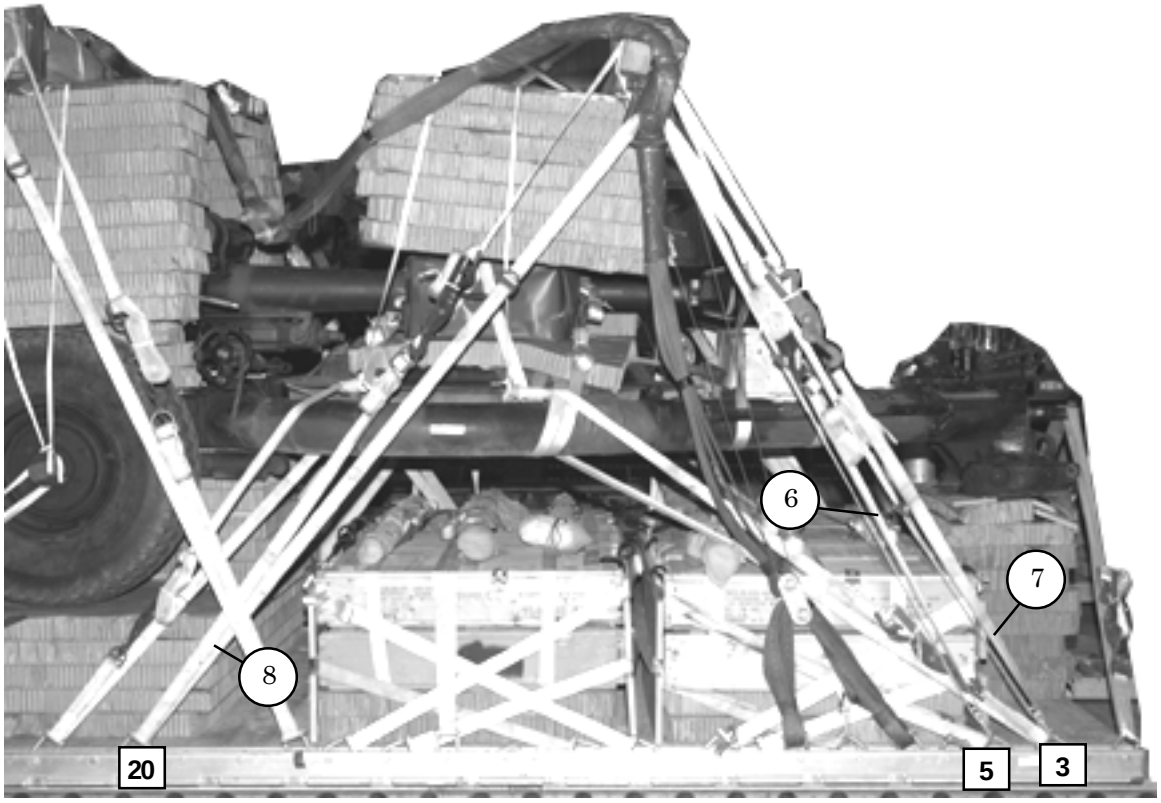
CAUTION: Center ACS width wise on the load.

Figure 6-26. Attitude Control System Positioned



1. Install a 3-foot (4-loop), type XXVI nylon sling to clevises 7 and 10. Connect an 11-foot (4-loop), type XXVI nylon sling to the center of the 3-foot sling with a 3 3/4-inch two point link.
2. Route the sling through the clevis on the ACS from front to rear. Pad and tape the 11-foot sling with felt from a point 6 inches below the clevis to a point 6 inches above the top of the ACS.
3. Safety tie the 3 3/4-inch two-point link to the ACS clevis with a loop of type III nylon cord. Ensure the tie is tight.
4. Install a 3-foot (4-loop), type XXVI nylon sling to the other end of the 11-foot sling with a 3 3/4-inch two point link. Pad and tape the link with felt (not shown). See Chapter 3.
5. Repeat steps 1 through 4 on the left side of load using clevises 7A and 10A.

Figure 6-27. Slings Installed and ACS Secured



6 Route a lashing from clevis 5 through right ACS clevis from front to rear, around the ACS 4- by 4-inch lumber and back to clevis 5.

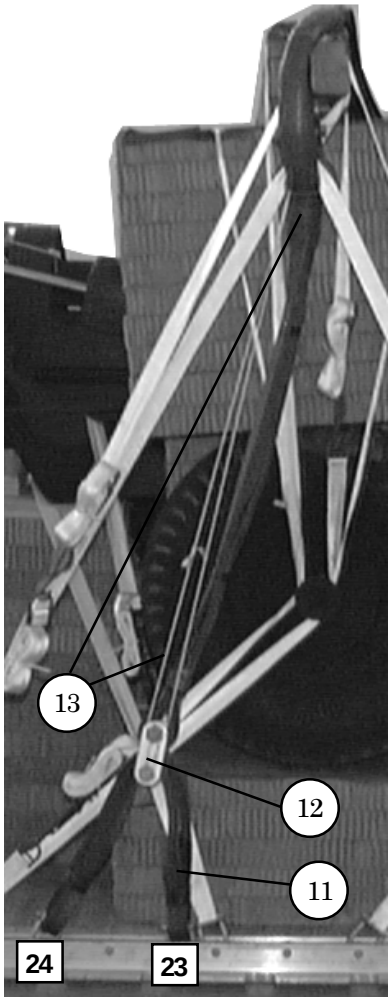
7 Repeat above step using clevis 3.

8 Route a lashing from clevis 20 through right ACS clevis from rear to front, around the ACS 4- by 4-inch lumber and back to clevis 20.

9 Repeat steps 6 through 8 on the left side of load using clevises 3A, 5A, and 20A (not shown).

10 Ensure the ACS is straight and centered on load. Load binders on both sides of the load must be closed at the same time in the following sequence: 5 and 5A, 3 and 3A, 20 and 20A.

Figure 6-27. Slings Installed and ACS Secured (Continued)



(11) Install a 3-foot (4-loop), type XXVI nylon sling to clevises 23 and 24. Connect an 11-foot (4-loop), type XXVI nylon sling to the center of the 3-foot sling with a 3 3/4-inch two point link.

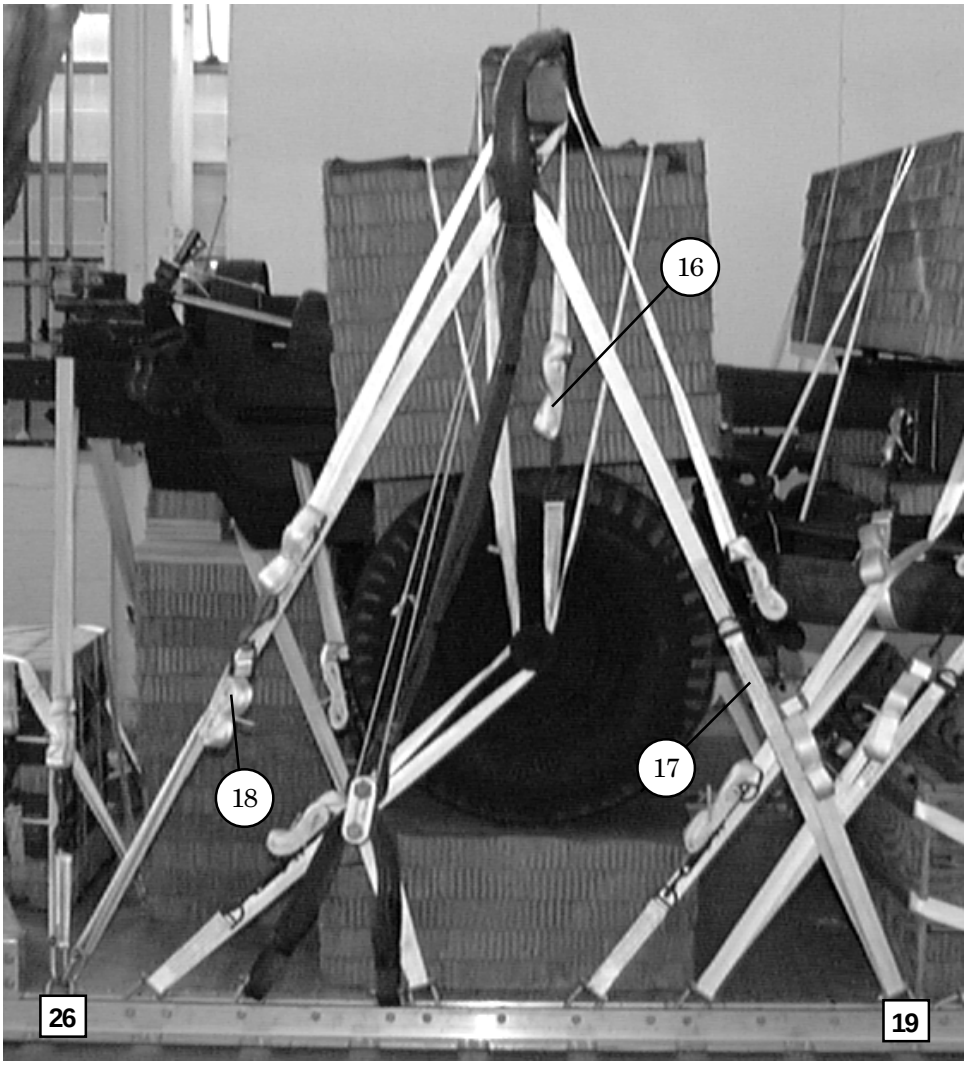
(12) Route the sling through the clevis on the ACS from rear to front. Pad and tape the 11-foot sling with felt from a point 6 inches below the clevis to a point 6 inches above the top of the ACS.

(13) Safety tie the 3 3/4-inch two point link to the ACS clevis with a loop of type III nylon cord. Ensure the tie is tight.

(14) Install a 3-foot (4-loop), type XXVI nylon sling to the other end of the 11-foot sling with a 3 3/4-inch two point link. Pad and tape the link (not shown). See Chapter 3.

(15) Repeat steps 11 through 13 on the left side using clevises 23A and 24A. (Not shown)

Figure 6-27. Slings Installed and ACS Secured (Continued)



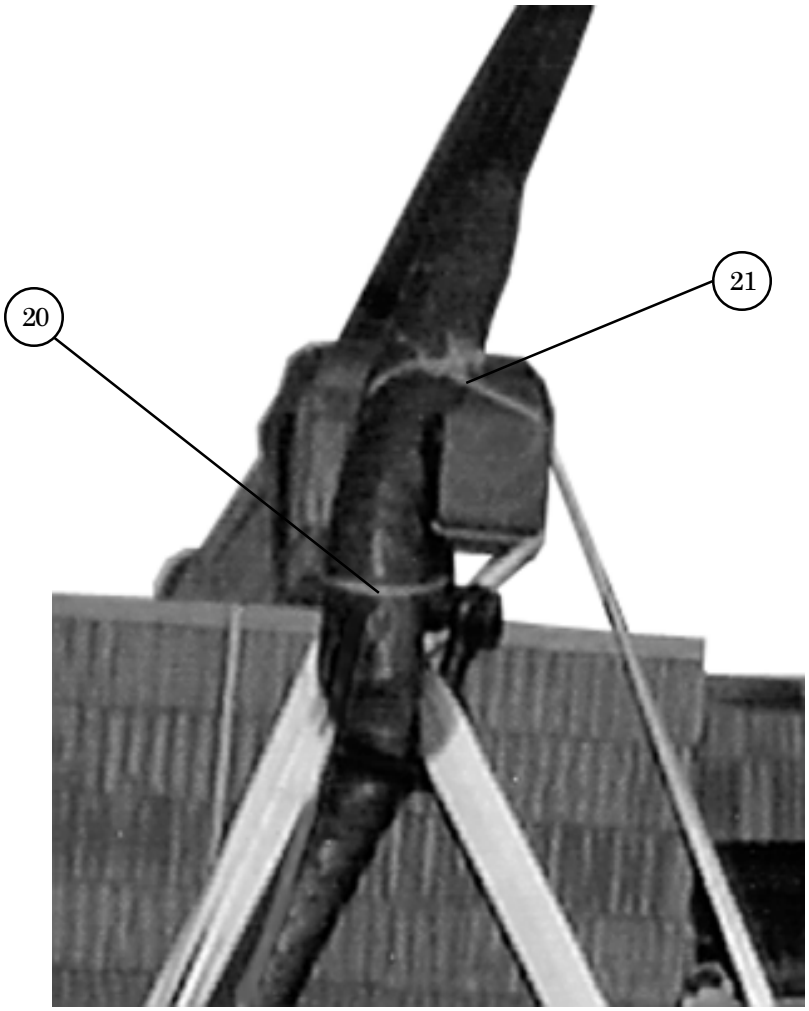
16 Route a lashing around the wheel hub, over the ACS and back to the wheel hub.

17 Route a 30-foot lashing from clevis 19 through right rear ACS clevis from outside to inside, rear to front, around the ACS 4- by 4-inch lumber and back to clevis 19.

18 Route a lashing from clevis 26 through right rear ACS clevis from outside to inside, front to rear, around ACS 4- by 4-inch lumber and back to clevis 26.

19 Repeat steps 16 through 18 on the left side of the load. (Not shown)

Figure 6-27. Slings Installed and ACS Secured (Continued)



(20) Remove all slack from the slings. Tie a length of type III nylon cord around the 11-foot sling and the ACS sling.

(21) Tie a length of type III nylon cord around the 11-foot nylon sling, behind all lashings, and the 4- by 4-inch lumber of the ACS and tie the ends together.

(22) Repeat steps 20 and 21 on all slings. (Not shown)

Figure 6-27. Slings Installed and ACS Secured (Continued)

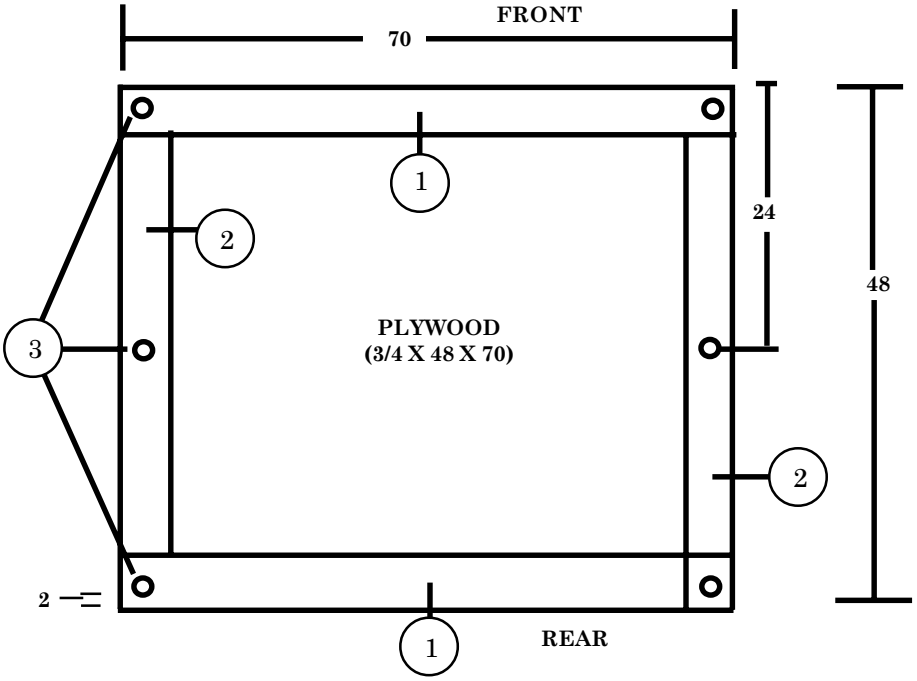
INSTALLING OUTRIGGER ASSEMBLIES

6-11. Assemble, install, and safety tie the mast and foot assemblies on the DRAS platform according to TM 10-1670-268-20&P/TO 13C7-52-22 and as shown in Chapter 3, Figures 3-33 through 3-35 and Figure 3-36 steps 1, 2, and 3.

STOWING CARGO PARACHUTES

6-12. Prepare the parachute stowage platform, stow, and restrain three G-11D cargo parachutes on top of the stowage platform as shown in Chapter 3 and as shown in Figure 6-28.

Notes: 1. All measurements are given in inches.
2. This drawing is not drawn to scale.
3. 8d common wire nails must be used to join the individual pieces.

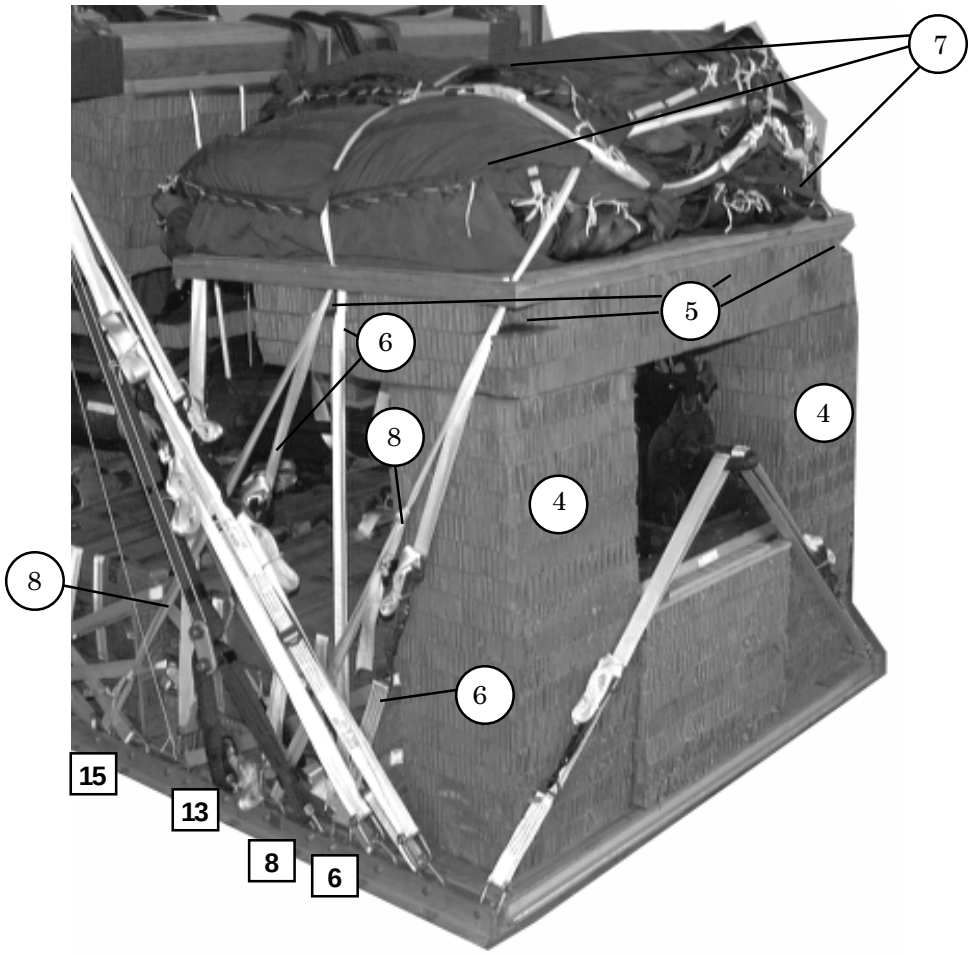


(1) Nail a 2- by 6- by 70-inch piece of lumber flush with the front and rear edges of a 3/4- by 48- by 70-inch piece of plywood.

(2) Nail a 2- by 6- by 37-inch piece of lumber to each side of the plywood as shown.

(3) Make three 2-inch holes in each 48-inch side of the platform as shown.

Figure 6-28. Parachute Stowage Platform Constructed and Cargo Parachutes Stowed



(4) Set two stacks of 17 layers each of 17- by 20-inch honeycomb flush against each side of stack 1 and the front of the platform.

(5) Set three 70- by 36-inch pieces of honeycomb on top of the two stacks flush with the front and sides. Make sure cutouts are made on the top layer of honeycomb to allow the front and middle parachute restraint straps to pass through them.

(6) Center the parachute stowage platform on the honeycomb stacks. Lash the parachute stowage platform to clevises 6 and 6A and clevises 13 and 13A.

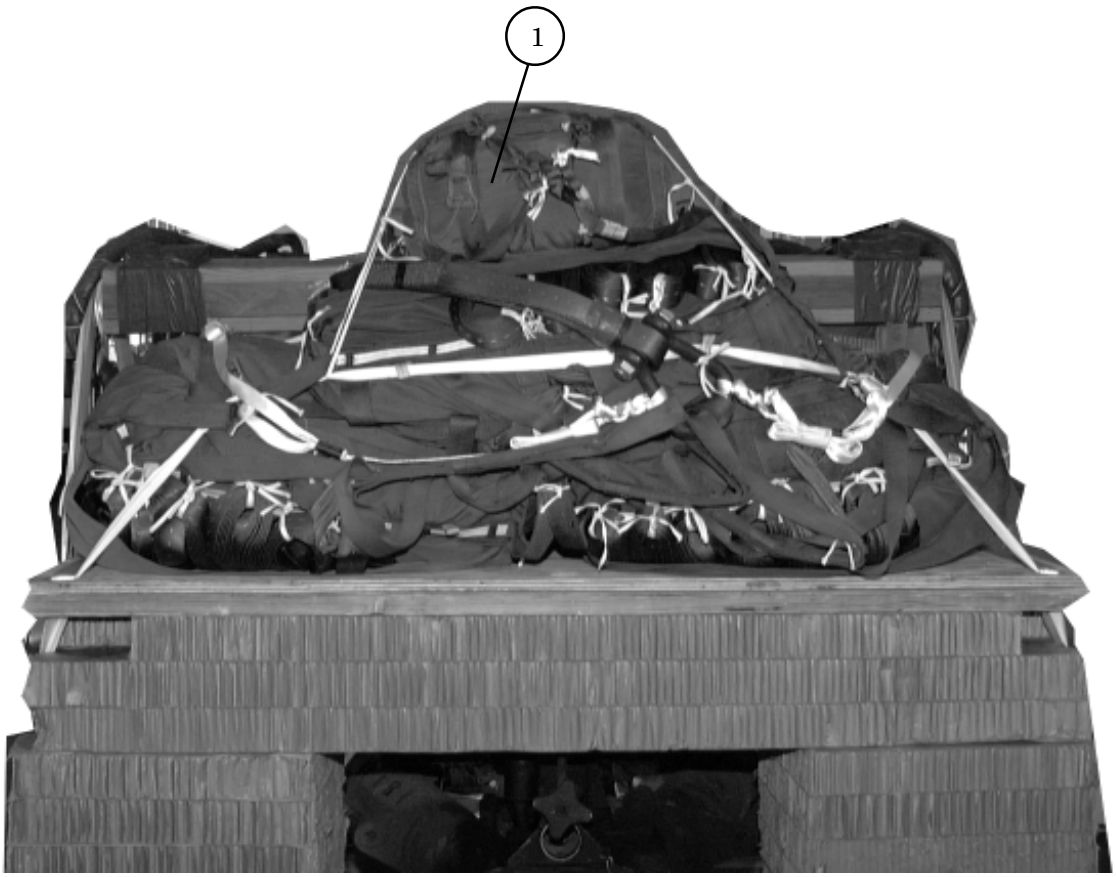
(7) Prepare and install three G-11D cargo parachutes on top of the stowage platform as shown above and in Chapter 3.

(8) Restrain the parachutes using type VIII nylon webbing tied to clevises 8, 8A, 15, and 15A.

Figure 6-28. Parachute Stowage Platform Constructed and Cargo Parachutes Stowed (Continued)

STOWING DEPLOYMENT PARACHUTE

6-13. Prepare, stow, and install the deployment parachute according to Chapter 3, Section IV and as shown in Figure 6-29.

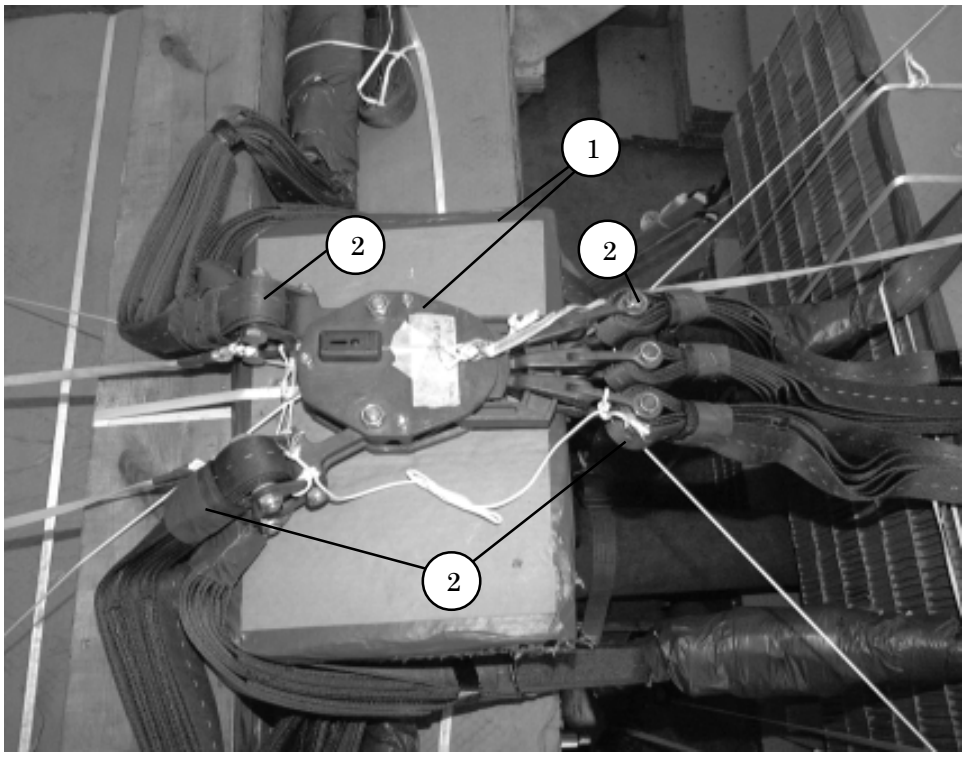


(1) Prepare, stow, and install the deployment parachute according to Chapter 3, Section IV and as shown above.

Figure 6-29. Deployment Parachute Installed

INSTALLING PARACHUTE RELEASE SYSTEM

6-14. Build an M-1 parachute release stack. Prepare and install an M-1 release system according to Chapter 3, Section V and as shown in Figure 6-30.



(1) Cut three 20- by 15-inch pieces of honeycomb and glue together to form the M-1 release parachute stack. Tape the top edges of the honeycomb. Center the stack and the M-1 release on the support stack against the rear ACS.

(2) Attach riser extensions and suspension slings to the M-1 release.

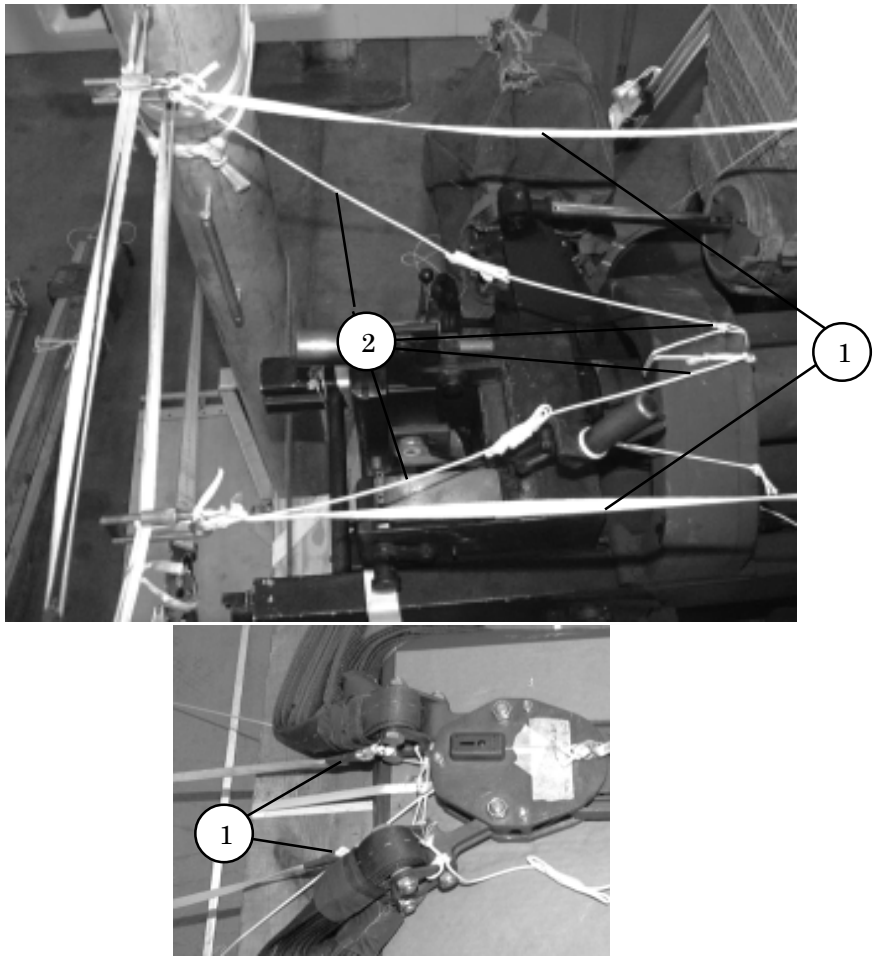
Note: Remove the buffers from the ends of the suspension slings that attach to the M-1 release.

(3) Group the riser extentions together and tie with type I, 1/4-inch, cotton webbing making three ties (not shown). S-fold the slack in the front and rear suspension slings on top of the rear ACS according to Chapter 3 of this manual.

Figure 6-30. Parachute Release System Installed

INSTALLING MAST RELEASE KNIVES

6-15. Install the mast release knives according to Chapter 3, Figure 3-36, Steps 4 through 10 and as shown in Figure 6-31.



(1) The lengths of the left and right 1/2-inch tubular nylon webbing from the base of the guillotine knives to the lower suspension links of the M-1 release is 59 inches as shown in steps 5 and 6 of Figure 3-36.

(2) Tie a length of type III nylon cord through the left part of the gun and to the body of the left top guillotine knife that measures 58-inches from the trunnion (hole) of the equilibrator arm to the base of the guillotine knife. Repeat for right part of the gun and right lower guillotine knife as shown in steps 9 and 10 of Figure 3-36.

Note: All measurments are from knot to knot.

Figure 6-31. Mast Release Knives Installed

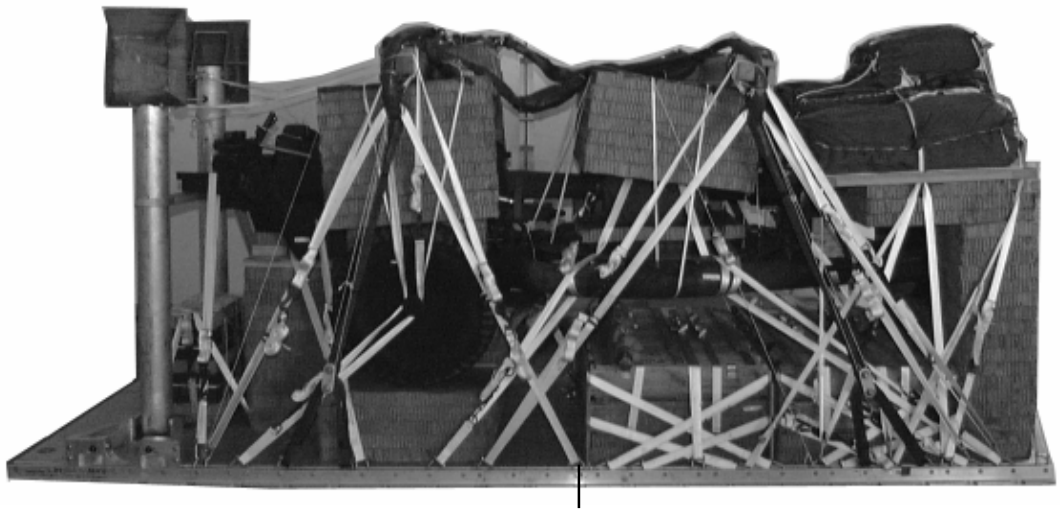
MARKING RIGGED LOAD

6-16. Mark the rigged load according to Chapter 3 and as shown in Figure 6-32. A Shipper's Declaration for Dangerous Goods is required.

EQUIPMENT REQUIRED

6-17. The equipment required to rig this load is listed in Table 6-1.

CAUTION
Make the final rigger inspection required by Chapter 3 of this manual before the load leaves the rigging site.



RIGGED LOAD

Weight	Load shown	10,000 pounds
	Maximum load	11,087 pounds
Height		98 inches
Width		94 inches
Length		220 inches
Center of Balance (from front edge of platform)		97 inches

Figure 6-32. M119 Howitzer and Accompanying Ammunition Rigged for Dual Row Airdrop

Table 6-1. Equipment Required for Rigging M119 Howitzer and Accompanying Ammunition for Dual Row Airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive paste, 1-gal	required
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
4030-00-090-5354	Clevis, large	5
4030-00-678-8562	Clevis, medium	4
	Link assembly:	
	Two-point, 3 3/4-in	9
5306-00-435-8994	Bolt, 1-in diam, 4-in long	18
5310-00-232-5165	Nut, 1-in, hexagonal	18
1670-00-003-1953	Plate, side, 3 3/4-in	18
5365-00-007-3414	Spacer, large	18
	Lumber:	
5510-00-220-6146	2- by 4-in	As required
5510-00-220-6148	2- by 6-in	As required
5510-00-220-6274	4- by 4-in	As required
5530-00-618-8073	Plywood, 3/4-in	5 sheets
5315-00-010-4659	Nail, steel wire, common, 8d	As required
1670-00-753-3928	Pad, energy dissipating, honeycomb, 3- by 36- by 96-in	24 Sheets
1670-01-487-5461	Staticline assembly release away	1
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11D	3
	Cargo extraction: (Deployment Parachute)	
1670-00-040-8135	28-foot	1
	Platform, Dual Row, 18-foot	
	Rail, DRAS	2
	Roller Pad, DRAS	4
	Panel Assembly, Main	9
1670-01-162-2372	Clevis assembly	56
1670-01-097-8816	Release, cargo parachute, M-1	1

Table 6-1. Equipment Required for Rigging M119 Howitzer and Accompanying Ammunition for Dual Row Airdrop (Continued)

National Stock Number	Item	Quantity
	Sling, cargo airdrop	
	For suspension:	
1670-01-062-6310	11-ft (4-loop), type XXVI nylon webbing	4
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	8
	For deployment:	
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	1
	For riser extention:	
1670-01-062-6313	60-ft (3-loop), type XXVI nylon webbing	2
	For ACS:	
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	2
	For lifting:	
1670-01-062-6303	11-ft (2-loop), type XXVI nylon webbing	4
1670-00-040-8219	Strap, parachute release, multicut	2
1670-00-937-0271	Knife release,cargo (guillotine)	2
1670-01-487-5464	Outrigger assembly	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-ft	58
1670-00-725-1437	Tie-down, Cargo, Aircraft, (CGU-1B)	1
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
	Nylon:	
8305-00-082-5752	Tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	8 yds